Stepfamily arrangement and child well-being in South Africa: A longitudinal perspective

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Introduction

The socio-economic setup of the apartheid system in South Africa had dominant and long-term impacts on the current family structures (Anderson, 2003) and its consequences on children schooling and wellbeing (Madhavan, Schatz, Clark, & Collinson, 2012; Sibanda, 2011). Forced relocation of Africans to what is referred to as homelands with conditions that offered significant limitations on their ability to change residential places (Jones, 1993), and high rates of female and male employment-related migration (Lu & Treiman, 2011) have had endured consequences on family dynamics in South Africa. Various studies have assessed different aspects of family dynamics in South Africa and its consequences on children schooling and health (Amoateng, Richter, Makiwane, & Rama, 2004; Anderson & Lam, 2003; Branson, Hofmeyr, & Lam, 2014; Cherian, 1989; Grant & Hallman, 2008; Hunter & May, 2003). For instance, Cherian (1989), Anderson and Lam (2003) and, Mboya and Nesengani (1999), studying black Xhosa-speaking children from the Transkei, children living in Cape Town and, secondary school children in the Northern Province of South Africa respectively, found that children from an intact family, where both biological parents were alive and present, have higher test scores relative to the scores for children from other family structures. Similar results are observed in the case of child health (Akinyemi, Odimegwu, & Banjo, 2017; Clark & Hamplová, 2013; Gibson & Mace, 2007; Ntoimo & Odimegwu, 2014; Smith-Greenaway & Clark, 2017; Smith-Greenaway & Trinitapoli, 2014).

Mostly absent of this literature is a focus on stepfamily arrangement, knowing how the rate of divorce and remariage are in this region (Adjiwanou, 2017; Chae, 2016; Clark & Brauner-Otto, 2015; Reniers, 2003). Recently, Lopus (2017) evaluates the effects of family arrangement on schooling outcomes for all children aged 6 to 15 years from the Ibo Island, located in northern Mozambique, using pooled data from two censuses (2009 and 2012) to estimate the differences in children's schooling enrolment as a function of father's or male presence and their interaction with maternal presence. Lopus (2017) found out that children's school enrolment was higher among children who lived with their biological fathers, whereas children who lived with stepfathers, other types of adult male nonrelatives, or no adult males fared substantially worse. Similarly, using data from 33 countries in SSA and adopting an innovative approach to measure stepfamily arrangement with the DHS data, Adjiwanou (2017) found that children who live in a stepfather family arrangement are less likely to attend school compared to children who live with both parents. His study also finds a contra-intuitive result: less than 5% of all under five children live in a stepfather family arrangement, a result that can be explained by the various forms of child living arrangement in the region, the norms around remarriage and by the cross-sectional aspect of the data used.

The present study uses longitudinal data and attempts to:

1. Document the level of various family arrangement and especially of stepfamily arrangement;
2. Evaluate how family arrangement structures within which children live change over time;

3. Assess the effects of stepfamily living arrangement on child school performance (in comparison to children living in a single-parent family arrangement or with both biological parents);
4. Assess the effects of stepfamily living arrangement on child health (in comparison to children living in a single-parent family arrangement or with both biological parents);
5. Assess how the effects of stepfamily arrangement on child health and (or) school performance vary with child's gender and place of residence.

Data

The data used for this article are drawn from the National Income Dynamics Study (NIDS) – the first nationally representative panel study conducted in South Africa by the Southern Africa Labour and Development Research Unit (SALDRU), based at the School of Economics at the University of Cape Town (UCT). This study was undertaken in order for the South African government to better understand the changing social and economic dynamics of South Africa (Leibbrandt, Woolard, & de Villiers, 2009). The study was introduced in 2008 with a nationally representative sample of over 28000 individuals in 7305 households. After the first wave, data were repeatedly collected from the same household members after every two years. The study currently comprises five waves of data collection– however, only the first four waves are currently available to researchers. A unique characteristic of the NIDS panel data is the platform it provides to adequately capture the changes in individual, parental, household and environmental level across waves (Leibbrandt et al., 2009). In the current study, only children who were successfully interviewed in at least two consecutive waves were considered.

Variables

The current study uses three measures of child well-being as outcome variables namely overweight (BMIZ) (derived from body mass index z-scores), stunted growth (HAZ) (derived from height-for-age z-scores) and the school performance (EDU) that captures whether the child passed or failed the grade in the academic year of the interview. The main independent variable for the current study is the time-varying family structure in which every child live, namely : stepfamily, both biological parents, single-parent, fostered out, non-residential (step/biological) parent – these are children living in the absence of one parent (either biological or step), and others. The category others represent children who had at least one biological parent found to live in more than one households.

Methods

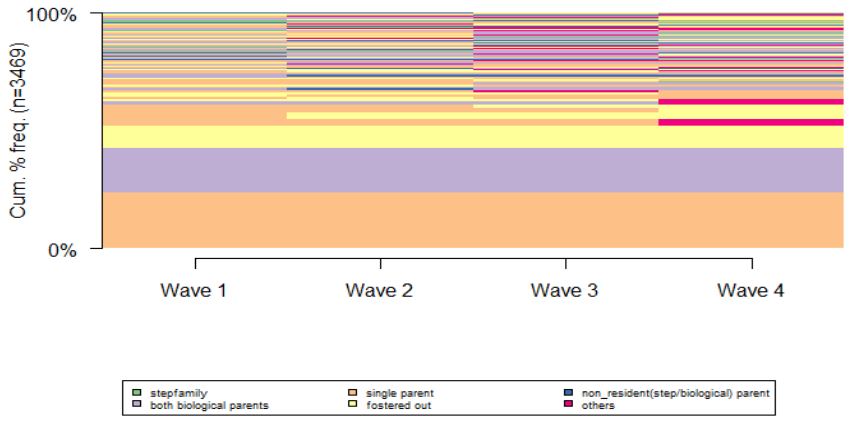
This study uses two methods namely, the sequential analysis to assess how family structure in which children live change over time using sequential frequency and index plots; and the conditional logit fixed-effects models to assess the effect of family arrangement on the dependent variables. The conditional logit fixed effects form of the model is given by:

$$\boldsymbol{logit}(\boldsymbol{y_{it}}) = \boldsymbol{X_{it}\beta} + \boldsymbol{\alpha_i} + \boldsymbol{u_{it}}$$

for each $\boldsymbol{i} = 1, 2,\ldots, N$ and $\boldsymbol{t} = 1, 2,\ldots, N$, where $\boldsymbol{y_{it}}$ is the dependent variable observed for child $\boldsymbol{i}$ at wave $\boldsymbol{t}$, $\boldsymbol{X_{it}}$ is the time-varying regressors, $\boldsymbol{\beta}$ is a matrix of parameters, $\boldsymbol{\alpha_i}$ are latent time-invariant variables and $\boldsymbol{u_{it}}$ is the error term with $\boldsymbol{E(u_{it}) = 0}$.

Results

Figure : Sequence analysis on how family arrangement structure within which children live change over time



The Figure shows the change in family structure over waves. It shows that a high proportion of children who happen to be in the same family arrangement across all four waves has been observed. Overall, the pattern of children who were in single-parent family arrangement throughout the study has the highest frequency than other arrangements, followed by a sequence consisting of children living with both biological parents across all four waves. However, there is much complexity in the way the patterns are changing in different directions, that explains the level of instability of family arrangements in South Africa. The family instability hypothesis depicts that children who are involved in numerous transitions in the family arrangement may suffer inferior well-being than children raised up in continuous and stable both biological parent family structure and possibly even stable, single-parent family structure (Fomby and Cherlin 2007). Thus, a manifold of transitions and adverse child developmental outcomes could be related via common causal factors attributed at parental, child and household level.

The Table below presents the results of the fixed-effects models. After controlling for child-level, parental-level, and household-level characteristics, children living in a stepfamily arrangement are less likely to perform well in school as compared to children living with both biological parents. The adversities of stepfamily arrangement differ by sex and by place of the residence; male and non-urban resident children are affected more as compared to female and urban resident children respectively (results not shown).

All full models (models with all the children five years and below) on nutrition outcomes show no statistically significant difference between children living in stepfamily arrangement in comparison to those living in either both biological parent family arrangement or single-parent family arrangement. However, this was not the case when only African children were considered; African children living in a stepfamily arrangement are ten times more likely to be stunted as compared to African children living with both biological parents. This discovery indicates how population groups in South Africa strongly influence how family arrangements are structured and their overall consequences on the well-being of children.

Table : Effect of stepfamily arrangement on children schooling and well-being

	EDU				HAZ				HAZ (Africans only)		BMIZ			
	Model 1		*Model 2*		*Model 1*		*Model 2*		*Model 3*		*Model 1*		*Model 2*	
	OR	**P>z**	**OR**	**P>z**	**OR**	**P>z**	**OR**	**P>z**	**OR**	**P>z**	**OR**	**P>z**	**OR**	**P>z**
Family arrangement														
Single-parent	0.166	0.05	-	-	-	-	3.762	0.073	1.16	0.813	-	-	3.700	0.278
Both biological parents	-	-	6.032	0.05	0.266	0.073	-	-	0.099	0.021	0.2703	0.278	-	-
Stepfamily	0.163	0.047	0.981	0.964	0.682	0.519	2.566	0.258	-	-	0.6139	0.497	2.271	0.532
Fostered out	0.103	0.116	0.623	0.492	1.852	0.319	6.969	0.097	4.157	0.124	0.7754	0.782	2.869	0.572
Non-resident(step/biological) parent	0.22	0.11	1.33	0.521	2.292	0.066	8.622	0.009	2.226	0.271	0.4516	0.098	1.671	0.676
Others	0.057	0.021	0.341	0.049	2.546	0.013	9.578	0.009	3.779	0.071	0.6528	0.469	2.415	0.536
N				1474				1639		1476				1152
LR chi2(22)				36.04				131.29		117.65				171.93
Prob > chi2				0.041				0.000		0.000				0.000
Log-likelihood				-510.6				-508.7		-458.6				-317.2

NOTE: Both models control for other covariates; household income, child's age, child's age squared, household size, household sharing of toilet facility, mothers' and fathers' employment status, mothers' and fathers' age.

Despite high levels of marital dissolutions and remarriage in the region, the current study shows that stepfamily living arrangement is not very common in South Africa. These results are in accordance with what is observed by Adjiwanou (2017), that stepfamily arrangement is an infrequent event in SSA and needs qualitative study to understand how children navigate between family arrangement at the onset of divorce and remarriage in SSA.

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