

Measuring children's living arrangements in rural South Africa: A comparison of approaches and application to schooling outcomes

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Background

- Demographers have long been interested in the relationship between children's living arrangements and children's well-being in sub-Saharan Africa (Desai 1992; Lloyd and Desai 1992; Sear et al. 2002)
- Studies that have examined the effects of extended family arrangements on well-being have arrived at inconsistent findings (Buchman 2000; Doan and Misharat 1990; Gage et al. 1996)
- More recently, a number of studies have focused on the presence of specific kin such as grandparents, finding that grandmothers have a positive influence on educational outcomes (Parker and Short 2009) and birthweight (Cunningham et al. 2011)

So why are we doing this?

Most studies have:

- Focused on simplistic attributes of household structure – nuclear vs. extended, number of generations, household size
- Have not distinguished structural attributes of residential arrangements from the presence of specific kin
- Relied on data that measures living arrangements from the perspective of the household head instead of the child

Acknowledging valid debates around “households”, they remain important conceptually and constitute the most common method of data collection and data analysis (van de Walle 2006); therefore, it is critical that we improve our ability to measure what they are and their effects on children

Objectives of analysis

1) Compare two ways of representing co-residential arrangements

- structural - emphasis on the extent of nucleation and the generational contours
- kin presence – the availability of specific kin delineated by age, gender and type of kinship (maternal vs. paternal).

2) Estimate the effects of each on children's schooling attainment in a rural community in South Africa

3) Develop a parsimonious model of living arrangements that would NOT require detailed data but would reflect local realities and be adaptable to other contexts

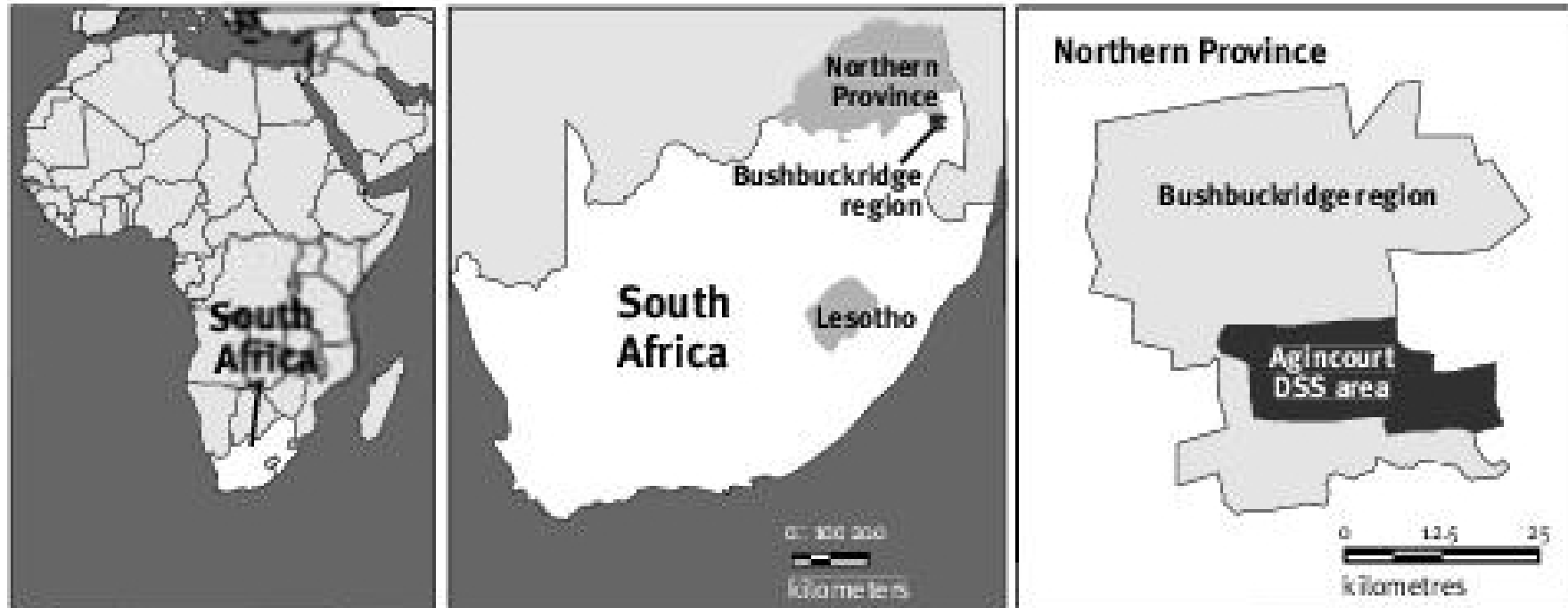
Social Positioning of Children

1) Household structure: represents the organization of kin in which children are embedded; these arrangements are marked by both cooperation and conflict and can be represented in terms of the extent of nucleation and generational contours (vertical, horizontal, contiguous/skipped)

2) Kin Presence: represents dyadic relationships between children and particular adults; makes an a priori assumption that particular kin types have specific value based on factors such as closeness of relationship, common lineage, shared gender and/or age based seniority;

- Two children having the same structure might have different relationships to the specific individuals in the structure which, in turn, would have different outcomes

The Agincourt Subdistrict







Agincourt Health and Demographic Surveillance System

- Longitudinal study initiated in 1992 to better understand health conditions in former homeland area of 80,000 people
- Annual update births, deaths, and migration and individual status such as residence, union, relationship to household head, and education of every household member
- Migration has been classified into two categories:
 - permanent is a person moving into or out of a household with a permanent intention
 - temporary is someone who is identified as a member of the household but has spent six or more months of the previous year out of the household for employment or other reasons
- Data on kin relationships come from two sources: 1) household rosters that collect conventional data on sex, age and relationship to household head and 2) a social connections database (SCDB) that uses all waves of the HDSS to derive robust indicators of both intra and inter household connectivity from the child's perspective

Sample and Methods

Sample includes 22,997 children aged 6 - 18 years old in 2002 who were neither parents themselves nor lived with a partner or partner's family

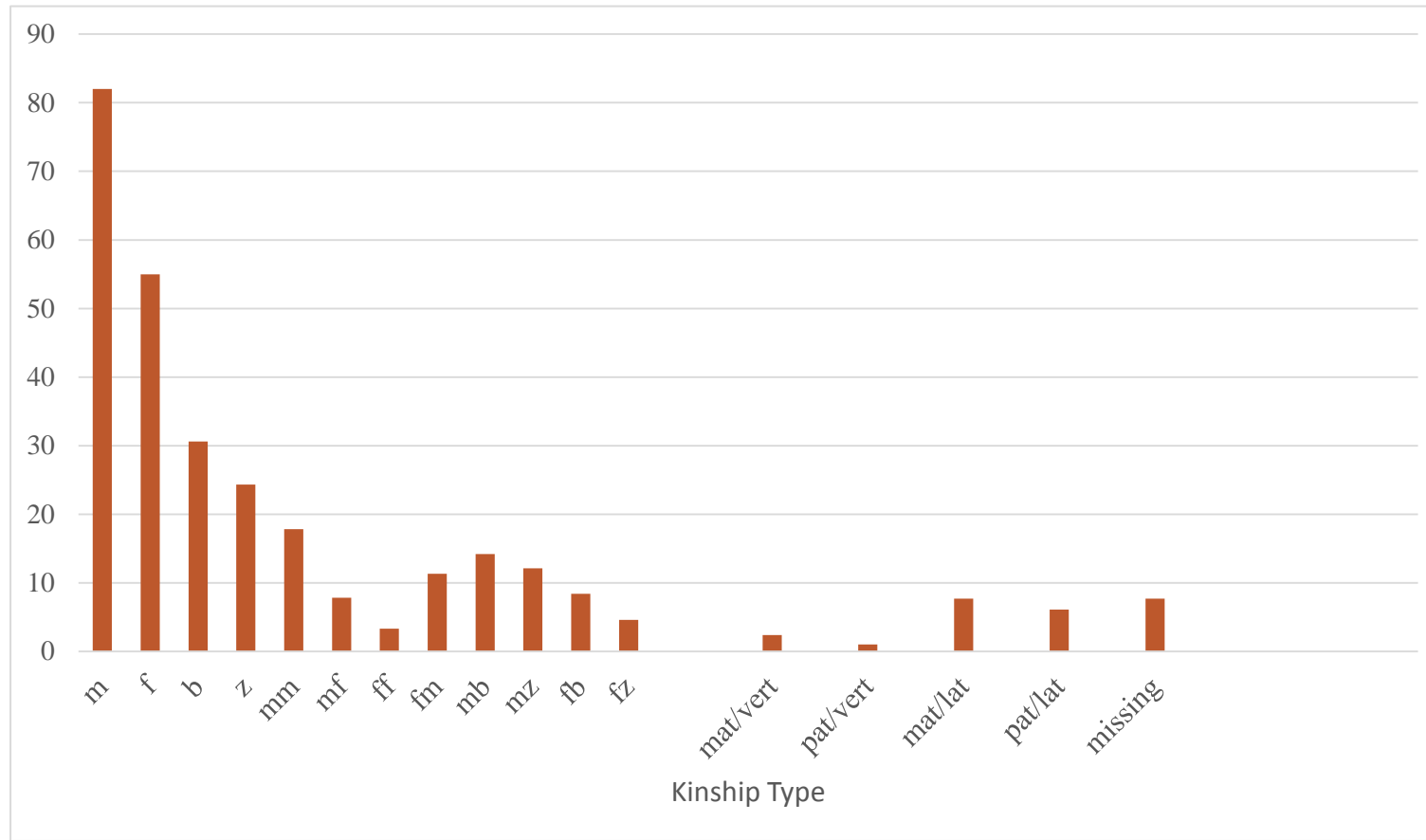
Constructed an “egocentric” listing of all coresident adult household members (known as alters) to the child (ego) and the specific kin relationship of each

Iterative strategy in which we start from an initial structural model informed mainly by the literature, move to a detailed examination of the presence of specific kin types and finish with a more refined, parsimonious model that reflects the local conditions of Agincourt but also amenable to adaption in other contexts.

OLS regression models to examine effects on education

- pace of education is modeled as a continuous variable that captures the difference between years of schooling attained and age and standardizes it by adding a constant for normal age of entry into school which is 6 in this community
- controls for age, educational attainment of the household head, headed by a Mozambican refugee, presence of labour migrants, number of children under the age of 19 and the number of adults in the household.

Distribution of co-residence with parents, siblings and extended kin for children aged 6-18



Distribution of initial structural categories for children aged 6-18

	N	%
Exclusive nuclear (both parents)	8900	(38.7)
Extended (w/ at least 1 parent)		
Exclusive contiguous vertical	1738	(7.6)
Exclusive lateral	1444	(6.3)
Both vertical and lateral	3114	(13.5)
No parent/any kin	2612	(11.4)
Lone mother	3312	(14.4)
Other*	1877	(8.2)
N	22997	

Effects of initial structural typology on pace of education for children aged 6-18

	Boys		Girls	
	Coeff	SE	Coeff	SE
Exclusively nuclear (both parents)	Ref		Ref	
Exclusively contiguous vertical (both or one parent)	0.030	(0.07)	-0.026	(0.07)
Exclusively lateral (both or one parent)	-0.183*	(0.08)	-0.128	(0.08)
Lateral and vertical (both or one parent)	-0.222***	(0.06)	-0.198***	(0.06)
No parent/any kin	-0.186***	(0.05)	-0.236***	(0.05)
Lone mother	-0.239***	(0.07)	-0.243***	(0.06)
Other	-0.237**	(0.07)	-0.239**	(0.06)
R²	0.307		0.243	
Observations	10557		10223	

Effects of kin presence on pace of education for children aged 6-18

	Parental Model				Add Grandparents				Add Other Kin			
	Boys		Girls		Boys		Girls		Boys		Girls	
Parental Status												
Both parents	ref		ref.		ref.		ref.		ref.		ref.	
One parent	-0.159***	(0.04)	-0.244***	(0.04)	-0.182***	(0.04)	-0.265***	(0.04)	-0.175***	(0.04)	-0.257***	(0.04)
No parents	-0.299***	(0.06)	-0.298***	(0.05)	-0.348***	(0.06)	-0.339***	(0.06)	-0.284***	(0.07)	-0.285***	(0.07)
Kin Presence												
Any grandparent					0.108*	(0.05)	0.092*	(0.05)	0.186***	(0.05)	0.134***	(0.05)
Any other kin									-0.052	(0.06)	-0.032	(0.05)
Any sibling 19+									0.143**	(0.05)	0.088	(0.05)
R ²	0.307		0.245		0.308		0.245		0.309		0.246	
Observations	10557		10223		10557		10223		10557		10223	

Effects of kin presence on pace of education, by number of parents for children aged 6-18

	Two Parents				One Parent				No Parents			
	Boys		Girls		Boys		Girls		Boys		Girls	
Kin Presence												
Any grandparent	-0.011	(0.08)	0.056	(0.08)	0.271**	(0.09)	0.134	(0.09)	0.446**	(0.14)	0.228	(0.12)
Any other kin	-0.084	(0.09)	-0.025	(0.09)	-0.107	(0.09)	-0.014	(0.09)	0.074	(0.15)	-0.093	(0.12)
Any sibling 19+	0.098	(0.06)	0.059	(0.06)	0.228**	(0.08)	0.175*	(0.08)	-0.026	(0.19)	-0.143	(0.19)
R ²	0.293		0.217		0.328		0.273		0.327		0.272	
Observations	5456		5262		3616		3467		1485		1494	

Effects of refined structural categories on pace of education for children aged 6-18

	Boys		Girls	
Nuclear/no adult siblings	ref		ref	
Nuclear/adult siblings	0.153**	(0.05)	0.107*	(0.05)
One parent/vertical and/or adult siblings	-0.023	(0.05)	-0.168***	(0.05)
One parent/no adult siblings/no vertical	-0.234***	(0.07)	-0.245***	(0.06)
No parents/vertical and/or adult siblings	-0.097	(0.07)	-0.180**	(0.07)
No parents/no adult siblings/no vertical	-0.558***	(0.12)	-0.400***	(0.09)
R²	0.309		0.246	
Observations	10557		10223	

Summary Points

- 1) Co-residence with extended kin is not the dominant pattern
- 2) No one type of kin dominates - surprising given the expectation that mothers' mothers might be very common in a context with low marriage rates
- 3) In terms of structural effects, the optimum type is nuclear with vertical arrangements having marginally beneficial impact and lateral having a potentially negative effect on educational attainment
- 4) However, the presence of adult siblings does provide additional benefit even when both parents are present particularly for boys
- 5) The presence of grandparents and adult siblings provide benefit when there is only one parent but only for boys
- 6) Kinship type (maternal vs. paternal) has no effect on educational attainment

Limitations

- 1) Cross sectional perspective limits appreciation of residential dynamics
- 2) Using one time measure of co-residence and cumulative process of educational attainment
- 3) Reverse causation possibilities
- 4) Absence of non-resident kin – will be addressed in future work
- 5) Refinements of the analysis presented here are possible
 - cluster on sibling sets within the household to identify more robustly the effect of birth order
 - Can include potentially important co-variates such as access to pensions and other social grants, employment status, or temporary migration status
 - Need to examine the gender effects more closely – why do boys benefit?

Main Theoretical Contributions

- Explicit focus on the difference between household structure and composition which are often used interchangeably and in some cases, erroneously, in the extant literature
- Each places emphasis on different dimensions of children's social positioning – whereas the structural embeds children within a larger kin structure of conflict and cooperation, the latter is concerned with how particular kin either protect or put at risk children's welfare
- This conceptual difference, we believe, is critical to appreciate if our ultimate goal is to improve the welfare of children

MERCI!!!

