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Dependent or Productive? A New Approach to Understanding the Social Positioning of Older South Africans Through Living Arrangements

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Abstract

South Africa's population is aging. Most of the older Black South Africans continue to live in extended household structures with children, grandchildren, and other kin. They also constitute a source of income through a means-tested noncontributory state-funded pension available at age 60. Using census data from the Agincourt Health and Demographic Surveillance

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System in 2000, 2005, and 2010, we develop a typology of living arrangements that is reflective of the social positioning of elderly persons as dependent or productive household members and analyze changes in the distribution over time. Older persons, in general, live in large, complex, and multigenerational households. Multigenerational households with "productive" older persons are increasing in proportion over the period, although there are few differences by gender or pension eligibility at any time point.

Keywords

Africa, South Africa, aging, living arrangements, social grants, gender

Introduction

Researchers of aging often use living arrangements and related measures (e.g., dependency ratios) as a lens to understand the social positioning of elderly persons and their roles within their households (see Special Issue Nos. 42/43 2001 of the U.N.'s Population Bulletin). The most common ways to reflect this positioning have been through relationship with the household head, coresidence of parents and children (not dependent on headship), and household type (simple/nuclear vs. complex/multigenerational) (De Vos & Holden, 1988). The main drawback of using headship and relationship to household head is that intrahousehold relationships not linked to the head are not specified, which in turn leaves an incomplete picture of the social positioning of elderly persons. In this sense, coresidence and household type, which are not contingent on the identity of the household head, may be better measures (De Vos, 2004; De Vos & Palloni, 1989).

Living arrangements are also influenced by the perceived and actual productive capacity of individuals. For example, some research on pensions suggests that because pensions offer financial autonomy for older persons, it may also indirectly influence living arrangements in the sense that older people might prefer to live separately from adult children and other family (Saad, 2001). In African settings, traditionally, interdependence and reciprocity have been more valued than independence as individuals age (Makoni, 2008), although there is evidence that this may be changing (Cliggett, 2005). This allows for several possibilities in terms of living arrangements. If older persons use their financial autonomy to have residential autonomy, then we might see them living in arrangements that include only themselves. Alternatively, they may feel obligated to contribute financial and other forms of

support to other family members, making itself apparent in particular multi-generational arrangements. In both cases, they assume more productive roles. Conversely, it may be that, even with access to pensions, they would prefer to live with and be taken care of by their children. In this sense, the interdependence ethic pertains more to the obligations of the adult children. In such cases, elderly persons could be seen as assuming a more socially dependent role. Most studies to date do not explicitly conceptualize or measure this dual positioning.

We focus on South Africa, where older persons, particularly in rural areas, are in the unique situation of being both dependent, because of their diminished physical capabilities, and productive, because of care work needs and their access to government-funded noncontributory pensions—a stable income source (Posel, Fairburn, & Lund, 2006). In this article, we develop an innovative typology of elderly persons' living arrangements that reflects this fundamental tension in the social positioning of older persons, using data from 2000 to 2010 in a rural community in South Africa. We focus on this time period because of three notable events that occurred on a national scale: men's pension age eligibility was lowered from 65 to 60 to equal women's, AIDS mortality increased, and rollout of antiretroviral therapy (ART) began. Using this typology, we address three questions:

1. How have the living arrangements of elderly persons changed over three time points, namely in 2000, 2005 and 2010?
2. Does the distribution of living arrangements vary by pension-eligibility status of the older person in the household?
3. What are the differences in household composition of those households where an older person is a dependent member versus those where he or she is a productive member?

This analysis is important for South Africa and emerging economies more generally because of the changing nature of employment, the increasing availability of pensions, and changes in the nature of intergenerational obligations. Although older persons have traditionally been thought of as dependents—because they are no longer of working age, are unable to participate in income- or food-generating activities, or due to frail health status—the reality in many emerging economies suggests that many older persons are taking on productive roles in their households and networks. This shifting position of older persons from “dependent” to “productive” necessitates a fundamental change in our approach to studying aging as a physiological and social phenomenon and has implications for analyzing and interpreting

the data we commonly use. Moreover, it has potential policy implications related to social support for elderly persons as well as their health and well-being.

South African Context

The proportion of elderly persons in South Africa is projected to double between 2009 and 2050, from 7% to 14% (United Nations, Department of Economic and Social Affairs, Population Division, 2011). Most of the older Black South Africans “age in place”, that is, live with families, particularly in rural areas, where there are very few nursing homes or other facilities to accommodate older persons as they become frail. However, unlike other countries, in sub-Saharan Africa, South Africans aged 60 and above are eligible for a noncontributory pension. This is particularly critical in a context of high unemployment, a double burden of communicable and noncommunicable diseases—including a long-standing AIDS epidemic with the recent ART rollout. These conditions mean that households with older persons may include multiple individuals of various ages with health and care needs (Bohman, Vasuthevan, Van Wyk, & Ekman, 2007; Hosegood & Timaes, 2005; Kautz, Bendavid, Bhattacharya, & Miller, 2010; Møller & Devey, 2003), amid substantial economic insecurity due to high unemployment.

In this context, in South African Black communities, families are still expected to *and* do provide most care for older adults (Bongaarts & Zimmer, 2002; Cheng & Siankam, 2009). However, the norms of caregiving have been altered by numerous factors. First, household structure has been fundamentally altered by the apartheid system. Labor migration, which was institutionalized under apartheid, has resulted in households functioning as “stretched” residential units, with family members “dispersed” between different households for reasons of work, care, support, and housing (Murray, 1980; Spiegel, 1988). Second, the postapartheid context is marked by high rates of unemployment in the rural Black population (Bhorat, 2007; Posel et al., 2006), which has kept labor migration by both men and women at high levels (Collinson, 2009). Therefore, elderly persons, particularly grandmothers, continue to play a critical role in child rearing (Madhavan, 2010; Madhavan, Schatz, Clark, & Collinson, 2012). Third, high unemployment means that many rural households have come to depend on the old age pension (Barrientos, 2003; Bertrand, Mullainathan, & Miller, 2003; Ferreira, 2006; Posel et al., 2006).

Until 2008, South Africa provided its means-tested noncontributory pension to women over age 60 and men over age 65. Following a Constitutional Court case, as of 2010, men and women both access the pension at age 60.

Approximately 90% of age-eligible Black older South Africans receive the pension (Burns, Keswell, & Leibbrandt, 2005), with around 80% coverage in Agincourt (Schatz, Gómez-Olivé, Ralston, Menken, & Tollman, 2012). More women than men are pension recipients (Burns et al., 2005). The pension, about US\$150 per month, is generally pooled and used to sustain the entire household rather than sole use by the pensioner (Case & Deaton, 1998). Pension receipt improves the health and well-being of both the pensioner and other members of the household (Ardington et al., 2010; Schatz et al., 2012) but also may reduce the likelihood of other adults being employed (Bertrand et al., 2003). This suggests that pensioners might be attractive household members and thus more likely than those not yet pension eligible to be living in multigenerational households and playing a productive role in those households.

Finally, patterns of caregiving within families and between generations are being challenged and reconfigured by the HIV epidemic. In South Africa, the majority of those living with HIV are under the age of 50 (World Health Organization [WHO], UNAIDS, & UNICEF, 2011). Traditionally, it is the younger generation that ought to be providing care for aging parents; however, due to their own HIV-related illness, they may no longer be able to do so (Kautz et al., 2010). Despite the recent rollout of ART that has extended life spans and improved quality of life of those living with HIV, the older generation is likely to outlive their children (Ford & Hosegood, 2005). Due to this “hollowing of the middle generation,” older persons must take on the work of caregiving (Hosegood, 2009; Mathambo & Gibbs, 2009; Nyasani, Sterberg, & Smith, 2009; Schatz, 2007). Additionally, substitute care work is likely to be gendered. Fostered and orphaned children in the Agincourt field site are 2 and 3 times more likely, respectively, to live in a household with an older woman rather than a household without (Schatz, 2007). Other work from the Agincourt field site found that the presence of an older female in the household decreased the odds of mobility for children whose mothers were temporary migrants and for orphans (Madhavan et al., 2012). Parker and Short (2009) found that, in Lesotho, orphans who lived with grandmothers fared better than those who did not.

In sum, against a backdrop of high unemployment, enduring labor migration by men and increasingly, women, a challenging disease environment, and the expansion of access to state-funded pensions, we contend that older persons take on the social positions of both dependents and productive household members through access to and provision of pension funds and caregiving. We now discuss the conceptual anchors of our supposition.

Conceptual Framework

The study of older persons' living arrangements in rural South Africa draws upon a well-established, multidisciplinary scholarship for conceptual guidance. Goode's theory of modernization (1963) predicts that households become more nuclear with urbanization and increased education, accompanied by a convergence of family types cross-nationally. Further, Caldwell's (1981) wealth flow theory would suggest that greater investment in fewer children further increases the nuclear family ties while decentralizing the importance of older persons. Therefore, the older generation, in such a model, would be more likely to reside in separate households. However, the trends in Black South African households challenge this prediction; while households *become smaller*, they also become more complex (e.g., multigenerational) (Amoateng & Heaton, 2008). Although South Africa clearly exhibits some of the classic forces of modernization, such as increase in women's labor force participation and education, along with a move from an agrarian to a more industrialized labor market, it has also experienced increasing unemployment, an HIV epidemic, and sociopolitical upheaval from the collapse of apartheid that has necessitated alternative family and household arrangements. Moreover, a cultural preference for extended family arrangements still prevails in many communities.

Nonnuclear arrangements offer a means to distribute resources within and across households (Long, 1997; Rakodi, 2002) in order to ensure the well-being of families and communities. It can address older person's own care needs, as the aging process inevitably leads to physical frailty and the need for care (Kowal et al., 2012; Lorber & Moore, 2002). If we used an altruistic model of intrahousehold resource allocation (Becker, 1974), we expect to see a pooling and equitable division of household income including pensions. However, if we use a model marked by both cooperation and conflict (Folbre, 1986; Sen, 1990), then the division of resources becomes more complicated. Moreover, there is some evidence that elderly persons have become a source of both labor and resource exploitation (Schatz, 2007). In this sense, pension access in South African households might actually reverse the axes of exploitation set out by Meillassoux (1981) who argued that the older generation, particularly men, benefit from the labor of the younger members, particularly females in a household. In the South African rural context, it is likely in many cases that older women and men are providing both economic security *and* essential caregiving services to the young and not receiving the recognition for doing so. In short, old-age pensions, which "extend" the productive life span, can be seen as a compensatory mechanism for chronic unemployment

and income loss, resulting from HIV-related illness and premature death. This, in turn, may be associated with a shift in the social positioning of elders within households. In particular, elderly persons may be challenging the conventional categorization of “dependent” and increasingly becoming productive members. However, productive in this sense may not necessarily confer status. Finally, we also build on Shanas et al. (1968) and Hammel and Laslett’s (1974) seminal work that established the importance of marital status of adult children within older persons’ households which also contributes to the social positioning of elderly persons.

Taken together, these theoretical lines enable us to develop a typology that reflects the complex social positioning of elderly persons. In particular, we can use living arrangements to distinguish circumstances in which elderly persons are likely to be assuming productive roles and those in which they assume more dependent roles. In this sense, we move beyond the broad categorization of households as “nuclear” or “complex”/“multigenerational” by suggesting the following alternative criteria:

1. If an elderly person lives in an arrangement with his or her married adult children (with or without grandchildren), she or he is likely to be *dependent*. In such situations, their adult children are likely to be the head of the household and thus assume major decision-making and caregiving responsibilities.
2. If an elderly person lives alone, or is in an arrangement with grandchildren but without her or his adult children or is with unmarried adult children (with or without grandchildren), then they are more likely to be a *productive* member. In this context, she or he is likely to be the sole or main financial provider and likely to function as primary caregiver in the household.

This distinction brings to light intergenerational contracts and obligations as well as individual markers of social and economic vulnerability such as being unmarried (Hosegood, McGrath, & Moultrie, 2009). The reality is clearly more fluid than our distinction suggests because we know that resources and caregiving are likely to flow in from multiple directions generationally and across households. However, this conceptual innovation offers us greater leverage in appreciating the myriad ways in which older persons are positioned within households including their roles in income generation and caregiving that the conventional criteria used to analyze the positioning of elderly persons would miss.

Table 1. Population and Household Characteristics, 2000–2010, Agincourt HDSS.

Year	Population	Number of Households	Population 50+	% of Population 50+	Households With Person Aged 50+	% of Households With Person Aged 50+
2000	70,673	11,646	7,518	10.6 ^a	5,604	48.1 ^a
2005	71,675	12,224	8,167	11.4 ^a	6,116	50.0 ^a
2010	88,659	15,828	10,192	11.5 ^a	7,664	48.4 ^a

Note. HDSS = Health and Demographic Surveillance System.

^aChi-square tests show a significant change across years ($P < .005$) in percentage of persons over 50+ in the population and in the percentage of households with a person 50+.

Data and Method

In this analysis, we use data from the Agincourt Health and Demographic Surveillance System (Agincourt HDSS). The research site is located in the subdistrict of Agincourt, which is 500 km northeast of Johannesburg in Mpumalanga Province. This semirural area has had high rates of both labor migration and refugee influx from the neighboring Mozambique. Two hospitals, a private and public health center, as well as several clinics serve the area. From 1992 into the 2000s, Agincourt's subdistrict experienced dramatic changes including the increasing prevalence of HIV, followed by increased voluntary testing and counseling services, and more recently roll-out of ARTs (Gómez-Olivé et al., 2013; Tollman, 2008). Agincourt has experienced social, economic, and political changes that have occurred all over South Africa, as the country has moved from the apartheid to democratic system (Allison & Harpham, 2002; Hunter, 2010; May & Norton, 1997), yet the population continues to struggle with low levels of education and high rates of unemployment (Collinson, 2009).

Beginning in 1992, when the baseline census was conducted in 21 villages (3 villages were added in the 2007 update), there has been an annual updating of all vital events—births, deaths, and in and out-migrations. In our analysis, temporary migrants are considered household members. Temporary migrants are designated as “de jure” household members even if physically absent for at least 6 months in the year preceding the interview. To provide the number of older persons and the percentage of households in which they live in this area, Table 1 shows selected population-level characteristics at three points in time (2000, 2005 and 2010).

Not only has the number of people aged 50+ significantly increased over time, but the percentage of households containing at least one older person

Table 2. Structure of Households With at Least One Member Aged 50+, Agincourt HDSS.

	2000	2005	2010
Average size (and range)	7.1	6.9	6.7
Size range	1-34	1-41	1-39
Percentage small (1-4 members)	28.7	29.8	31.3
Percentage medium (5-8 members)	38.2	39.3	40.0
Percentage large (9+ members)	33.1	30.9	28.7
	100%	100%	100%
N	5,604	6,116	7,664

Note. HDSS = Health and Demographic Surveillance System.

has risen significantly (chi-square tests at $p < .005$). This may be partially due to shifts from larger to smaller households over time among households that include a member aged 50+.

As seen in Table 2, the average size of households has decreased over time. The percentage of small (<4 members) and medium (5-8 members) households has increased. However, older persons' households are fairly evenly spread across small, medium, and large households at each cross section.

These population-level attributes provide the context to develop our typology, which draws on household roster data, including the age, gender, and relationships of all household members. Following work by the WHO, we define an older person as an individual aged 50 years or older (Kowal et al., 2012). Moreover, this age cutoff also allows us to examine the differences among older persons pre- and postpension eligibility. Each household member receives a code for "relationship to household head." The household member who completes the census form designates, or confirms, the identity of the household head and then describes the relationship of each household member with the head. As in much of South Africa, the designated head in the majority of households in Agincourt tends to be the oldest household member (Budlender, 2003; D. R. Posel, 2001; Schatz & Madhavan, 2011); however, older women, in particular, may live in households headed by their sons (Noumbissi & Zuberi, 2001). Household relationships are coded using the eight elemental relationships (mother, father, daughter, son, wife, husband, sister, and brother). For example, a grandson of the head is coded as SS (son's son) and granddaughter as DS (daughter's son).

Using these relationship codes, we develop a typology of living arrangements comprising five categories. *Single-generation* households include single persons, couples, and siblings living together. Households with a head, his or her spouse, and children (or parents of the head) are labeled as *two-generation* households; these households also include single-parent households and those with step children. Multigenerational households are disaggregated into three categories: *linear linked multigeneration*, *complex linked multigeneration*, and *other*, a catch-all for all the remaining types that are too small to comprise categories on their own. Linear linked households are those in which (1) there is no break in generations and (2) the middle generation is comprised of a married couple in the traditional “productive” age category (ages 15–49). In this case, older persons are more likely to be dependents of the household because the head of household is likely to be their son (or daughter) who would assume primary responsibility for caregiving and financial provision. Complex linked multigenerational households have additional individuals who may be seeking assistance from other productive household members. Those needing assistance may include an older household head’s unmarried children or fostered/orphaned grandchildren, and among younger heads, their siblings, nieces/nephews, and/or aunts/uncles, and/or (parents/daughters/sons)-in-law. These are households in which older persons, particularly pensioners, may need to take on more of a productive role. The productive role may include financial contributions, whether from pensions or from income-generating activities. In addition, productive roles may be in the form of physical and in-kind support, such as providing care for the sick or young. Skipped generation households (parental generation is missing) are also included in the complex linked multigenerational category. Skipped generation households have been portrayed in the AIDS literature as examples of older persons shouldering the additional caregiving burdens brought on HIV/AIDS mortality or morbidity (Chazan, 2008).

Because the focus of this article is to establish proof of concept, the analysis is primarily descriptive. After constructing the typologies described earlier, we (1) show how distributions have changed over the three time periods, (2) assess how the distribution varies by pension eligibility and sex of older persons, and (3) show whether there is compositional variation across selected household types. No significance tests were conducted on the household-level analyses as our data come from a census of a population rather than from the more commonly used sample.

Table 3. New Typology of Living Arrangements With at Least One Member Aged 50+, Agincourt HDSS.

	2000	2005	2010
Single generation	9.8	9.6	10.7
Two generation	13.5	13.0	12.8
Linear linked multigenerational	12.5	12.6	13.8
Complex linked multigenerational ^a	33.5	36.2	40.9
Other households ^b	30.7	28.6	21.7
	100%	100%	100%
N	5,604	6,116	7,664

Note. HDSS = Health and Demographic Surveillance System.

^aIncludes skipped-generation households, which technically have only two generations.

^bIncludes multigenerational households with configurations that are not captured by the linear-linked and complex-linked categories.

Results

Change in Older Persons' Living Arrangements Over Time

Table 3 displays some notable changes over time in the distribution of living arrangements that include a person aged 50 and older.

About 10–11% of households with an older person are single generation—the majority of these are single-person households, with couples and siblings representing less than a quarter of this type of household. Two-generation households with an older person are most likely to be older persons and their children who may be adults themselves. Not surprisingly, this is a relatively small category, only 12–13% of older persons' households. About the same percentage of older persons' households (12–14%) fit in the linear linked multigenerational category. Thus, it constitutes a small proportion of all households with an older person. The most common category for households with an older person, and one that increases over the three time periods, is the complex linked multigenerational category. In 2000, this category captured about a third of all households with an older person, but in 2010, it was just over 40% of older persons' households. The *other* category is also sizeable (between 20% and 29%), with an increase from 2000 to 2005, followed by a decrease in 2010. Thus, we see that there have in fact been changes over time in the types of households in which older people live, with older persons being increasingly concentrated in complex households. This may be a function of the aging of households but may also be indicative of the role of older persons in attracting to their households more people of different generations. As noted in Table 2, however, increasing

proportions of households in complex and multigenerational categories have not led to larger households.

Pension-Eligibility Differences in Living Arrangements

Our second research question is focused on whether there are differences in the distribution of living arrangements by pension eligibility status and whether older women and men have similar or different pre- and postpension living arrangement typology distributions. Pensions as a household-level resource may attract particular types of household members (e.g., children without parents, single mothers, etc.). In addition, women and men in South Africa are likely to have very different work histories and household responsibilities related to care work. Thus, we wish to explore whether pension eligibility, particularly for women who would be less likely to have had access to cash resources prior to pension eligibility but may be more likely to be taking on care work at older ages, are more likely than their male peers to reside in households where they may be productive members.

We use age as a proxy for pension eligibility; the total sample size for men shifts over time because of the change in pension eligibility requirements. In 2000 and 2005, men aged 50–64 are captured in the prepension category; but in 2010, the prepension category captures men aged 50–59 and the pension category captures men 60+. We include a fourth column to show what men's living arrangements would have looked like in 2010 had there been no change in pension age eligibility. No such change occurred for women; therefore, prepension has always pertained to ages 50–59 and pension to 60 and older.

Based on Table 4, it appears that there are differences in the distribution of living arrangement categories by both pre and postpension eligibility and sex.

The most notable difference between prepension and pension-eligible household distributions is in the two-generation category, a smaller proportion of households with a pension-eligible member fall into this category than households with a prepensioner. Although the complex linked multigenerational category remains fairly similar between prepension and pension-eligible households, a higher proportion of pension-eligible individuals than prepensioners live in linear linked multigenerational households and the other category. There are differences in the proportion of single-generation households between prepension and pension-eligible households, but for women the proportion is higher among prepensioner than among those eligible for pension, whereas it is the opposite for men. Thus, we see that pension

Table 4. New Typology of Elderly Living Arrangements Disaggregated by Pension Status and Sex, Agincourt HDSS.

	2000		2005		2010		2010 (If No Change in Pension Age Eligibility)
	Prepension	Postpension	Prepension	Postpension	Prepension	Postpension	
Women	50-59	60+	50-59	60+	50-59	60+	
Single generation	5.0	7.2	4.2	4.5	4.5	7.7	
Two generation	23.0	8.3	22.4	7.3	21.6	7.3	
Linear linked multigenerational	10.5	14.6	12.0	14.1	13.2	15.7	
Complex linked multigenerational	35.6	34.8	37.7	38.5	43.1	43.6	
Other households	25.9	35.0	23.7	33.5	17.6	25.7	
	100	100	100	100	100	100	
<i>n</i>	1,893	3,432	2,192	3,572	2,769	4,414	
Men	50-64	65+	50-64	65+	50-59	60+	50-64
Single generation	6.6	6.3	7.1	6.2	8.2	6.8	65+
Two generation	19.5	7.0	18.8	7.0	21.3	7.7	8.1
Linear linked multigenerational	12.5	14.5	13.1	13.8	12.9	16.2	18.6
Complex linked multigenerational	34.9	34.3	37.1	37.6	40.6	43.9	14.5
Other households	26.4	37.8	23.9	35.4	17.0	25.4	42.2
	100	100	100	100	100	100	16.6
<i>n</i>	2,817	2,386	3,008	2,687	2,850	4,253	28.6
							100
							3,899
							3,204

Note. HDSS = Health and Demographic Surveillance System.

eligibility does seem to be associated with the differences in the distribution of household types but not necessarily in the hypothesized ways.

Some sex differences are also evident. Although a small proportion of men and women live in single-generation households, less than 5% of women live in this type of household prepension eligibility; this proportion is greater (as mentioned above) among pension-eligible women. A slightly larger proportion of prepension men live in single-generation households (6–9%), but for men, we see a lower proportion of men living in this type of household upon pension eligibility. A higher proportion of women than men live in two-generation households prior to pension receipt; however, the proportion is significantly lower for both men and women upon pension eligibility. The similarities in the distribution among multigenerational household types between men and women in terms of distribution prepension and upon pension eligibility are remarkable. The proportion of men and women in complex linked households is highest in 2010, with even greater differences for men from the prepension to postpension distributions compared to the prior years or in the counterfactual column showing 2010 without a pension age-eligibility change. This may suggest a pension rather than age effect.

Compositional Differences in Older Persons' Living Arrangements

Finally, our third question is concerned with examining compositional differences (e.g., presence of an orphan, fostered child, temporary migrant, etc.) across our three categories of multiple generational households, namely linear linked households, complex linked households, and other. These results are shown in Table 5.

A smaller percentage of linear linked (“dependent older persons”) households have at least one orphan and at least one foster child compared to complex linked multigenerational (“productive older person”) households. On the other hand, a larger percentage of the linear linked households have at least one temporary migrant. The differences in the proportion of household members under age 15 are small. Despite the other category being a catch-all category, it is interesting that a smaller percentage of households in this category have orphaned or fostered children, or temporary migrants, as well as, on average, fewer members under age 15. This suggests that households in the other category may be more likely to capture older persons who are dependent or vulnerable and thus are less able to take on a productive social position.

There are also interesting changes over time in multigenerational households as a whole. There are significant decreases in the percentage of households with either an orphaned or a fostered child in all three categories. The

Table 5. Selected Compositional Features Among Multigenerational Households, Agincourt HDSS.

	2000	2005	2010
Linear linked multigenerational			
At least one orphan	17.1	15.8	11.15
At least one foster child	38.1	31.2	23.9
At least one temporary migrant	77.3	80.7	82.2
Average proportion of households under age 15	35.6	32.3	31.3
<i>n</i> of households	701	765	1,058
Complex linked multigenerational			
At least one orphan	21.7	22.6	15.4
At least one foster child	43.9	34.7	26.0
At least one temporary migrant	63.5	64.3	68.3
Average proportion of households under age 15	35.9	32.7	30.8
<i>n</i> of households	1,875	2,207	3,127
Other households			
At least one orphan	17.2	16.7	13.3
At least one foster child	30.6	24.9	18.5
At least one temporary migrant	62.6	64.8	66.3
Average proportion of households under age 15	31.3	27.7	25.4
<i>n</i> of households	1,715	1,744	1,656

Note. HDSS = Health and Demographic Surveillance System.

average proportion of household members under age 15 is also decreasing over time. On the other hand, the trend is toward an increase in the percentage of households with at least one temporary migrant. This may mean that the need for older persons to be productive members is lessening.

Discussion

This article examined the change in the distribution of living arrangements of elderly persons in 2000, 2005, and 2010 in a rural context in South Africa. Using an innovative typology based on household roster data, we focused on older persons' social positioning within households as productive or dependent members. Moreover, we assessed how this varies by pension eligibility status and sex of the older person and explored the differences in selected compositional features across multigenerational household types.

Our analysis shows several important findings. First, for households with an older person, there is an increase between 2000 and 2010 in the percentage of complex linked multigenerational households, the households in which we

proposed that older persons are most likely to act as productive members. This is true for both older men's and women's households. This aligns with other studies which have concluded that households with older adults are likely to include multiple generations, including children (Bongaarts & Zimmer, 2002; Cheng & Siakam, 2009). Yet, as shown in other work, at the same time, we find households are decreasing in size (Amoateng & Heaton, 2008; Wittenberg & Collinson, 2007).

Second, when we divide older persons based on pension-eligibility status categories, we see a larger proportion of two generation households among prepensioners than among pensioners. Multigenerational households, on the other hand, go in the opposite direction, with a smaller proportion found among prepensioners' households, and a substantial proportion of all pensioners' households falling into these categories. Nearly 85% of all households with a pensioner are multigenerational (i.e., linear linked, complex linked, or other). As people age, they are likely to live with extended family from whom they receive care. However, it may be that multigenerational pensioners' households are formed instead so that older persons can care for and provide income to extended kin. The literature has pointed to a weakening of the social safety net for older persons and the loss of their caregivers, particularly in HIV endemic settings (Kautz et al., 2010). And, in fact we see that for persons over 50 they are more likely to live in households that may not have other productive members (complex linked) than they are to live in households with a more linear relationship model (i.e., grandparents, a married child and spouse, and grandchildren), where we might expect that the older persons receive care. It is of course important to be clear that the presence of married adult children does not mean that those children are financially stable. A next step would be to validate this typology by comparing it to direct measures of financial stability where possible.

Further, when examining the prevalence of skipped generation households (a subcategory of the complex linked multigenerational households but not shown separately in the tables), we found that less than 4% of households with prepensioners fell into this category in each cross section; for households with a pensioner, however, skipped generation households contribute 6.2%, 6.9%, and 7.6% for women and 6.1%, 7.0%, 7.3% for men in 2000, 2005, and 2010, respectively. Clearly, skipped generation households, while not a large percentage of all households, are much more prevalent among households with an older person who is in a productive capacity. This may mean that once a pension is available the middle generation moves out or that children are moved into the household (Edmonds, Mammen, & Miller, 2005). In either scenario, it is likely that the expectation is that the regular

income from the pension is available to assist in the care, schooling, and other needs of children (Ardington et al., 2010; Schatz & Ogunmefun, 2007). Other research has stressed that older Black Africans are more likely to be living with young children but are less likely to be living with adult children (Bongaarts & Zimmer, 2002). In future work, we will look specifically at shifts in household types when an older person becomes pension eligible. Importantly, we will be able to track the types of households older persons lived in prior to living in a skipped generation household or other type of multigenerational household.

Third, we did not find stark differences between the living arrangements of older men and older women, which might have been expected because of traditional gender differences in caregiving (women) and income generation (men). Men are more likely than women to live alone, or in single-generation households, as they age, but otherwise their households look quite similar. This may point to older men and women playing equally important but perhaps different roles in households. Moreover, given that both have access to pensions, their financial contribution may be equally welcomed. This topic needs more investigation including understanding how other family members view the role of the older person in the household (as productive, dependent, or some combination of the two) as well as how other family members view the pension (as an individual transfer or household resource) and how pensioners make decisions about expenditures.

Finally, we also examined the variation in household composition (e.g. presence of orphans, fostered children, and temporary migrants) which are likely to be most prevalent in larger and more complex households. The percentage of households with at least one orphan is decreasing over time. This is likely attributable to the rollout of ART in the area such that existing orphans are aging out of the category without being replaced with newly orphaned children under the age of 15. Similar dynamics might be occurring with fostered children, with there being less need to foster children because the parents are less likely to be sick once on ARTs. More investigation is needed into the relationship between temporary migration and the role of elderly persons in multigenerational households. We show an increase in temporary migration in multigenerational households over time, but at each point in time, *linear linked* households have the highest percentage of household with a temporary migrant. This may be a challenge to our designation of older persons as “dependent” members of these households. On one hand, it might mean that older persons are left with children in their care if the migrant is a parent to children in the household; on the other hand, older persons may be less likely to have to support the household financially with their

pension if the migrant is in fact employed and sending remittances home (Hosegood & Ford, 2003; Madhavan et al., 2012). Additional data, both qualitative and quantitative, about the dynamics of migration, remittances, and care work are needed.

These findings need to be understood in light of two main limitations of our analysis. The first is in our measurement of pension eligibility. Using age as a proxy for pension receipt may limit the precision of these categories; about 80% eligible individuals in the Agincourt HDSS reported pension receipt in 2010 (Schatz, Ralston, Menken, Gómez-Olivé, & Tollman, 2014). Unfortunately, this direct measure of pension receipt in the Agincourt HDSS census is only available starting in 2010. In addition, due to the descriptive nature of the analysis, what appears to be effects of pension eligibility in reality may be reflective of aging. As a result, it is unclear whether the similarities between pre- and postpension households are due to the anticipatory effects of pensions or simply the increasing likelihood of having children and grandchildren with whom to live as one reaches age 50 and older. We hope to unpack this further using a regression discontinuity approach with age as a proxy for pension receipt in the future.

The second set of limitations relates to the criteria in the household typologies and shifts in these categories over time. Although marriage of adult children is the main feature differentiating complex and linear linked households, there are other compositional features that may at least partially be an artifact of the criteria used to create particular categories. For example, linear linked households are less likely than complex linked households to have orphaned or vulnerable children. Because linear linked households are more likely to include an intact nuclear family with grandparents, these households, by definition, are less likely to house children whose parents are not there. Similarly, linear linked households are more likely to have at least two nonelderly adults, which may partially explain why the percentage of these households with at least one temporary migrant is higher. In other words, we need to be aware of the endogeneity inherent in our categorization and the resulting conclusions. Moreover, we cannot tell whether the consistency of complex linked multigenerational households over time points to continued importance of family as caregivers or the increased need for older persons to provide support. These are issues that we will continue to unpack and explore in future work.

This article argues for rethinking the way that we measure the social positions of older persons through the lens of living arrangements. Although the conceptual basis for the typology—productive vs. dependent social positioning—has universal applicability, the operationalization of each category is

context dependent. In South Africa, access to a pension and the continued reliance on family for care work against a complicated mortality/morbidity scenario that include both communicable and noncommunicable diseases influence the typology that we present about the social positioning of older persons. Different social, economic, and political realities along with different types of available data will undoubtedly result in different categories, but the need to disaggregate older persons according to their social positioning holds across contexts. This, we suggest, is among the first efforts to address the heterogeneity of older persons' roles in households in Africa, which has started to gain traction in the literature elsewhere. In our future work, we plan to estimate transition probabilities of individuals moving from one type of living arrangement to another using the typology developed in this article. In addition, we will explore sex differences in these transition probabilities. Finally, although our findings are suggestive of causal relationships between change in pension status, HIV-related mortality, and living arrangements of elderly persons, future work needs to employ event history modeling techniques to substantiate these claims.

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