

Household Structure and Aging in South Africa: A Research Note

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Introduction

African countries suffering under the HIV/AIDS pandemic, like South Africa, will experience shifting population dynamics. These shifting dynamics will have substantial implications for family structure and the place of the elderly in the household. The role grandparents as primary caregivers of children may be more pronounced in the future.

Census micro-data archived by the African Census Analysis Project provide an opportunity to examine levels, trends and the characteristics of population aging in Africa. Some of the data sets contain detailed information on households as well as the relationships of each household member to the head of household. Combining this information with questions on orphanhood allows us to examine the household living arrangements of the aged.

Studying the aging process in South Africa, a racially stratified society, may help generate relevant hypothesis that can guide research in South Africa and others African countries. In this research we address four interrelated questions: What are the roles of migration, mortality and fertility trends on the evolution of the proportion of the aged in South Africa? What are the household structure and the characteristics of the living arrangements of the elderly? Are there differences by race, sex, region and place of residence? Where and with whom do the aged resided?

We first describe the factors resulting in the differences in the aging process, especially fertility and mortality experiences of the different racial groups. Secondly, we examine the characteristics of the living arrangements of the elderly defined as a population aged 65 and above. We finally examine the household structure of the elderly population and their racial differences.

Data and Methods

South Africa is the only sub Sahara African country with multiple censuses that can be used to tell the history and the dynamic of the demography based on actual time series data. In

addition to the 2001 census to be, the country had realized censuses on the following dates: 1936, 1946, 1951, 1960, 1970, 1980, 1991 and 1996¹. Unfortunately, these censuses are not comparable without a thorough evaluation and adjustment of the data. While all the previous censuses were collected on a de jure basic, the 1991 and 1996 censuses surveyed only the facto population (RSA, 1992, Zuberi and Khalfani, 1999). Most importantly, the political history of the country, influenced by a long period of a racial segregation and stratification, has affected all the statistical data collected before the end of the apartheid regime in 1994. For example, it is estimated that the 1991 census covered only 53 percent of the African population due to the boycott of the census by the African National Congress (Zuberi and Khalfani, 1999). The former Bantoustan states or Transkei-Bophuthatswana-Venda-Ciskei (TBVC) states were not covered by 1980, 1985 and 1991 censuses. Aerial photography and sampling techniques were used to compute corrector factors used to estimate the population size in 1991.

The decline² in the proportions of the aged observed in 1996 for the African population depicted in figure 1 may in part be explained by the differences in the quality of data. The 1996 census was the first post-apartheid census and covers the entire country.

[Figure 1 about here]

Under the apartheid regime, the policy of “Influx Control” placed limits on the movement of Africans and forced the separation of African families. This policy prevented wives, children and the elderly from legally staying in white neighborhoods and forced children and spouses of male migrants to remain in the homelands (Zulu and Sibanda, 2001; Appolis, 1996). As a result of apartheid family members of African immigrants were prevented from co-residing on the farms, in the mines or the towns and cities (Zulu and Sibanda, 2001). This law did not only affect the living arrangements of African families, but it also impacted the population structure in homelands.

Using the question on the relationship of members of the households to the head of the household, along with the number of persons in the household we classify households into five mutually exclusive categories. We do not distinguish polygynous households in our classification because the South African census does not provide information on polygyny.

Thus, we distinguish the following household structures: (1) Single-person households consisting of individuals who live alone; (2) a nuclear household (household head and immediate family), (3) Extended households (nuclear household plus other relatives) and (4) Composed households (nuclear or extended households plus non-relatives). Single-person households in a real sense are also nuclear, however, for the purposes of our analysis we have isolated these in order to have an idea of the proportion of the elderly in South Africa who live alone.

The analysis of family structure is more problematic than household structure, especially when using census micro-data. First, only co-resident persons can be considered part of the family. Next, one must decide how to divide co-residents into families. These rules are culturally and temporally specific. Although more information would be desirable, kinship and residence are strong indicators of family membership. Households are not divided into mutually exclusive sets of families. Instead this study focused on the living arrangements of elderly persons and others. By focusing on the living arrangements of the elderly within the household systematically, nuclear and extended households are identified.

The household unit is defined as consisting of a house or apartment and the group of people who live in it. It is a central social unit where most, if not all, of its members live out a great deal of their lives together, thus providing a central place for them to be fed and sheltered. To understand the dynamics within various household structures enumerated above, we first examine the relationship of the elderly household members to the head. In other words, we examine whether the elderly resides in a household headed by himself, his/her spouse, his/her child, relatives or others who may or may not be biologically related with him/her or whether he resides in an institution.

Our analysis is descriptive, however, we employ multinomial logit analysis to examine racial differentials in the living arrangement of the elderly net of selected demographic and socioeconomic factors.

Results

Household type of the elderly

In order to examine the type and the structure of the household where the elderly reside, we restricted the analysis to persons living in ordinary (non-institutional) households. Table 1 presents the proportions of individuals by the type of household in which they reside by group age and race. Overall, the elderly population of South Africa, especially the very old, are more likely to reside in extended households. This observation varies by racial groups. For instance, while about 55 percent of the white population aged 60 or more reside in nuclear households, only about 26 percent reside in extended households. The Asian, African and colored elderly populations all seem to be more extended than the white elderly with about 57, 58 and 53 percent of their respective populations residing in extended households. These differences are even higher when the very old (persons over 80) are considered.

[Table 1 about here]

As expected, the proportion of persons residing in nuclear household seems to decrease with age, while the proportion of persons living alone increase with age. The proportion of the elderly living alone observed at the national level seems to be driven by the level observed among the white population. White elderly are more likely to live alone.

Racial differences in mortality and fertility trends

Even if the levels and pace are not identical, all the racial groups are affected by the aging process as the consequence of the evolution of mortality and fertility. Indeed, although high for the African, colored and Asian population groups until the 80's, fertility is currently declining in all racial groups in South Africa (see Table 2).

[Table 2 about here]

Wide disparities exist in the levels and trends of mortality between racial groups and the differences are diminishing at a lower pace than fertility. Table 3 presents life expectancy at birth and the under-five mortality rates. Whites are maintaining their net advantage as compared to other racial groups and the highest levels of mortality are observed among African population. Mortality has been declining in all racial groups until the 1990s when there appears to have been a reversal in the mortality declines. This reversal in the trends of mortality might be attributed to the increasing incidence of HIV/AIDS.

[Table 3 about here]

Current differentials in population aging in South Africa

In South Africa, population-aging process differs not only by racial groups, but also by sex, province and place of residence. Table 4 presents the proportions of elderly persons by selected variables. As expected, the rural population is older than its urban counterpart. This is explained by the fact that young adults are more likely to migrate to cities in search of work and schools. Social attachments of these migrants, especially Africans, with their childhood areas may result in the return to rural areas after retirement (Kinsella et Ferreira, 1997). Because 49 percent of women aged 65 and above reside in rural areas against 51 percent in cities (figures not shown in tables), reference can also be made to the aftermath of the apartheid policy that forced men to leave behind their wives and children in the rural areas.

While there are 92 men for 100 women in the entire population, the sex ratio is only 62 in the elderly population. Notwithstanding the impact of an under enumeration of men in South Africa (Statistics South Africa, 1998 et 1999; Orkin, 1998), this result is partly due to the fact that women live on average longer than men. More than 43 percent of women aged 65 or more are widowed compared with about 12 percent of elderly men (table 5). Because of the high proportion of elderly who are never married or divorced (more than 10 percent for both sexes), we may expect to have a large number of elderly women living alone without a supporting family network.

[Tables 4 and 5 about here]

While about 11 percent of the entire population are Whites, more than 23 percent of the elderly are Whites. This reflects the racial differences in the population aging process. The White South African population is indisputably the oldest population while the large majority of elderly are Africans (more than 67 percent).

The aging structure varies across provinces. While the majority of elderly are residing in Kwazulu Natal, Eastern Cape, Gauteng and Northern provinces, the population of Eastern Cape, Western Cape and Northern provinces appears to be “older” than other provinces.

Relationship of the elderly to the head of household

The examination of the relationship to the head of the household provides useful information on the residential and living arrangements of the elderly. The household relationships used by Statistics South Africa in 1996 is slightly different from the United Nations recommendations (United Nations, 1980); the following categories were distinguished: 1) head, 2) wife/husband, 3) son/daughter including stepchild, 4) brother/sister, 5) mother/father, 6) grand/parents, 7) grandchildren, 8) other relative, 9) non-relative and 10) institutions for persons who were surveyed in institutions. Using this detailed information, it is possible to provide an answer to the question “where and with who do the elderly resides?” Table 6 presents the distribution of the aged by their relationship to the head of the household and selected variables. Some elderly persons live with their parents or grandparents (about 2 percent overall). This is probably either the sign of the data quality or a cultural reality -- heirs in Africa, whatever their age, are usually acting as household head and are often classified as parents or grandparents. The relationship to the head of the household by marital status also reveals some problems with data; about 5 percent of never married and 2 percent of widowed and divorced who are living with their husbands or wives are explained by data problems. It may be interesting to examine the characteristics of this sort of household, but in the next section of this paper, these persons have been dropped out.

[Table 6 about here]

A relatively small percentage of the elderly population lives with non-relatives (less than 2 percent overall). It is interesting to note that, as compared to men, elderly women seem to be more likely to reside in household headed by their children or grandchildren. Overall, a relatively high percentage (63 percent) of the elderly are living in the household headed by themselves and more than 50 percent of persons aged 80 and above are still heading their household. This proportion is higher in rural areas (66 percent) than urban (less than 60 percent). It also varies by sex with more than 51 percent of elderly women who are head of household compared to about 81 for men. The proportion of elderly head of the households where they reside varies by the racial groups; Africans elderly seems more likely to be head of the household than other groups. This variation, along with the variation by place and province of residence, may be partly explained by the existence of institutions and homes for aged in urban areas and some provinces. South Africa is one of the rare sub-Sahara African countries where this type of institution exists; however it is the White group that is most likely to use these structures.

Living in ordinary households versus institutions

We are interested in comparing the probability of residing in institution to those of living in ordinary household. From the relationship with the head of the household presented in table 5, we distinguish three types of households where the elderly live: (1) Ordinary households headed by the elderly or by a relative; (2) Ordinary households headed by a non-relative; and (3) Institutional households. Because the dependent variable thus created has three values, we use the multinomial Logit model to examine racial differential in the type of the household net of age, sex, province, place of residence, and marital status. The multinomial logit model is adopted for this purpose given the fact that the dependent variable has more than two categories (Allison 1999).

Considering that J is the number of categories of the dependent variable (here 3), p_{ij} , the probability of an individual i possessing the characteristic j , the model used is based on the following equations:

$$\ln\left(\frac{p_{ij}}{p_{ik}}\right) = \beta_j x_i \quad \text{et} \quad p_{ij} = \frac{e^{\beta_j x_i}}{1 + \sum_{k=1}^{J-1} e^{\beta_k x_i}},$$

where $j=1, \dots, J-1$, x_i , the set of independent variables and β_j the set of coefficients that are estimated using the likelihood method. Because the sum of all J probabilities should be equal to 1, the probability p_{ij} is equal to:

$$p_{ij} = \frac{1}{1 + \sum_{k=1}^{J-1} e^{\beta_k x_i}}$$

Once the coefficients are estimated, the following odds are used to compare two given values:

$$\ln\left(\frac{p_{ij}}{p_{ik}}\right) = (\beta_j - \beta_k) x_i$$

Tables 7 and 8 present the odds of comparing the probability of living in each type of household for two models applied to the elderly (persons aged 60 and above) and the very aged (persons aged 80 and above). As expected, the odds that a person resides in ordinary households (columns 1 and 2 of table 6) rather than in institutions decrease with age. The very old are more likely to be affected by disability and health problems suggesting that this decrease is probably correlated with the health of the very old population.

[Table 7 about here]

The odds that a White resides in ordinary households (columns 1 and 2 of table 6) rather than in institutions is about one-half the odds for the reference category confirming that White population are more likely to reside in institution as compared to others groups. This result is even more significant when the model is applied on the very aged (table 8). It is interesting to note that the Asian group is less likely to reside either in an institution or in a household headed by a non-relative. This is also the case for the African population when analysis is restricted to the very old. For these two groups, relatives are the principal caregivers to the elderly, especially the very old.

[Table 8 about here]

The odds that a man resides in ordinary households headed by himself or a relative rather than in institutions are about one-half the odds for women. These differences are not significant if the analysis is restricted to the very aged while the odds that a man resides in household headed by a relative rather than household headed by a non-relative is about one-half the odds for females in the two models. This result seems to confirm the hypothesis that women are more likely to reside in a household headed by their children or grandchildren than men.

As depicted in tables 7 and 8, the odds that the urban elderly resides in ordinary households rather than in institutions are about one-half the odds for those of rural areas. The urban/rural difference is even greater when the model is applied to the very old. This suggests the significant impact of the place of the residence on the living arrangements of the elderly whatever the racial group and other variables controlled in the model. There are also significant provincial differences, but only one province, Mpumalanga, appears to be atypical when the model is applied to the very old. The elderly living in this province are most likely to reside in ordinary households headed by themselves or relatives. They have indeed the odds of residing in households headed by a relatives rather than institutions about 4 times the odds for the elderly living in Gauteng. These results obtained while variables such as place of residence (urban/rural), the racial groups are controlled suggest significant differences in regional access to institutions.

Conclusion

An increase in the number of the elderly in a context of a health crisis due to the HIV/AIDS pandemic constitutes a real challenge. In South Africa, more than the half of the people aged 80 or more are still heading the household where they reside. In a context where widowhood is very important and the proportion of elderly who are never married or divorced very high, a large number of elderly, especially women are probably living alone without a supporting family network. The elderly also probably supply resources to other household members. Indeed, South Africa is one of the rare African countries where economic support for the elderly exists. All women aged 60 or more and men aged 65 or more are eligible for a social pension of about \$100 per month (May, 1998; Kinsella et Ferreira, 1997; Ministry for Welfare, 1997).

These issues need further examination in a later study where the households sheltering the elderly will be reconstructed and their size and characteristics examined. This will also provide an opportunity to examine the increasing issues related to the care to the children and grandchildren by the elderly due the impact of HIV/AIDS.

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Figures and tables

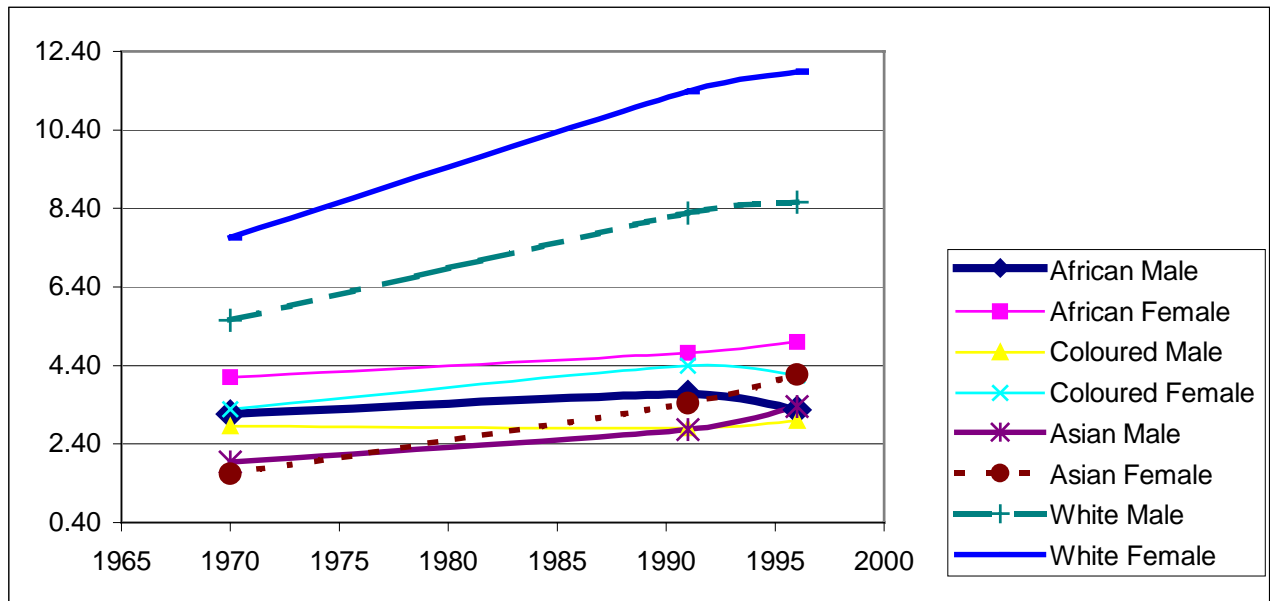


Figure 1: Proportions of persons aged 65 and above in South Africa by sex and racial groups

Table 1: Proportions of individuals by household type and group age

		Nuclear	Single	Extended	Composed	Total
African	0-14	40.7	0.0	41.2	18.0	100
	15-59	39.9	5.7	38.9	15.5	100
	60+	20.6	6.0	58.0	15.5	100
	80+	14.3	5.7	64.5	15.5	100
Colored	0-14	47.3	0.0	34.8	17.8	100
	15-59	46.5	2.2	34.3	16.9	100
	60+	25.4	5.3	53.4	15.8	100
	80+	15.9	6.3	62.3	15.5	100
Asian	0-14	61.1	0.0	30.3	8.6	100
	15-59	57.7	1.4	32.9	8.0	100
	60+	30.9	4.0	56.9	8.2	100
	80+	19.5	4.4	67.0	9.1	100
White	0-14	74.5	0.0	12.6	12.9	100
	15-59	67.7	5.4	12.2	14.6	100
	60+	54.8	19.2	17.2	8.8	100
	80+	32.8	30.4	26.4	10.4	100
South Africa	0-14	44.0	0.0	38.5	17.5	100
	15-59	44.5	5.2	35.0	15.3	100
	60+	28.5	8.7	48.9	13.9	100
	80+	18.7	11.4	55.7	14.2	100
	Total	43.0	3.7	37.3	16.0	100

Table 2: Total fertility rate in South Africa by racial groups

Years	Africans	Asians	Coloreds	White s
1981	5.3	5.1	5.0	3.6
1982	5.7	5.0	5.2	3.7
1983	5.4	4.9	5.2	3.8
1984	5.5	4.7	5.0	3.8
1985	5.2	4.5	4.9	3.7
1986	5.2	4.7	4.8	3.6
1987	4.8	4.0	4.5	3.4
1988	4.6	4.0	4.3	3.2
1989	4.6	3.9	4.4	3.2
1990	4.7	3.8	4.5	3.3
1991	4.5	3.6	4.3	3.1
1992	4.2	3.4	4.1	3.0
1993	4.0	3.2	3.9	2.7
1994	3.6	2.8	3.6	2.6
1995	3.1	2.6	2.9	2.4
1996	3.0	2.5	3.0	2.3

Source: Sibanda and Zuberi, 1999

Table 3: Mortality in South Africa by racial groups

Years	Africans		Asians		Coloreds		Whites	
	e_0	${}_5q_0$	e_0	${}_5q_0$	e_0	${}_5q_0$	e_0	${}_5q_0$
1970	57.5	0.125	63.9	0.066	59.5	0.083	71.5	0.029
1975	59.3	0.113	64.6	0.062	61.1	0.073	72.0	0.028
1980	61.0	0.101	65.3	0.059	62.8	0.065	72.5	0.026
1985	62.7	0.091	66.0	0.056	64.3	0.057	72.9	0.025
1990	64.3	0.081	66.7	0.052	65.8	0.052	73.4	0.023
1995	64.6	0.086	64.6	0.050	66.2	0.055	73.7	0.028
1996	64.6	0.086	64.6	0.050	66.2	0.055	73.7	0.028

e_0 : Life expectancy at birth

${}_5q_0$: Under five mortality rate

Source: Udjo, 2001

Table 4: Distribution and proportion of persons aged 65 and above by selected variables

Variable	Distribution of persons aged 65 and above	Distribution in the whole population
<i>Place of residence</i>		
Urban	50.5	53.5
Rural	49.5	46.5
<i>Sex</i>		
Men	38.6	48.0
Women	61.4	52.0
<i>Racial groups</i>		
Africans	67.7	77.4
Coloreds	6.7	9.0
Asians	2.0	2.6
White	23.6	11.0
<i>Marital status</i>		
Never married	8.3	64.4
Married (Civil or religious)	32.8	17.3
Married (traditional)	19.9	7.8
Living together	1.5	3.2
Widowed	31.2	3.2
Divorced	2.6	1.8
Others	3.7	2.3
<i>Province of residence</i>		
Western Cape	10.2	9.6
Eastern Cape	18.9	15.6
Northern Cape	2.2	2.1
Free State	6.2	6.5
Kwazulu Natal	19.4	20.7
North West	8.0	8.3
Gauteng	15.8	18.1
Mpumalanga	6.0	6.9
Northern Province	13.3	12.2
N	1 925 378	39 740 813

Source: Computation from the 10 percent micro-data sample of the 1996 census

Table 5: Marital status of persons aged 65 and above by sex

Marital status	Men	Women	Total
Never married	8.0	8.6	8.3
Married (civil or religious)	48.1	23.1	32.8
Married (traditional)	23.9	17.5	20.0
Living together	2.6	0.9	1.5
Widowed	12.4	43.0	31.2
Divorced	2.4	2.7	2.6
Others	2.7	4.3	3.7
Total	100.0	100.0	100.0

Table 6: Relationship of persons age 60 and above to the head of the household by selected variables

	Household head	Husband/Wife	Son/daughter	Brother/sister	Mother/Father	Grandparents	Grandchildren	Other relatives	Non related	Institutional	Total
<i>Age</i>											
60-64	61.7	22.9	1.6	1.7	4.6	1.3	0.1	2.5	1.3	2.2	100
65-69	65.7	18.2	1.2	1.4	5.5	2.1	0.2	2.6	1.1	2.0	100
70-74	65.4	14.8	1.3	1.4	6.9	3.0	0.3	3.1	0.9	2.9	100
75-79	65.0	10.2	1.2	1.2	8.7	4.8	0.4	3.7	0.8	4.0	100
80 +	54.0	5.8	2.0	1.1	12.3	7.5	0.7	4.9	1.1	10.5	100
<i>Place of residence</i>											
Urban	59.8	17.9	1.1	1.4	7.0	2.2	0.2	3.6	1.5	5.3	100
Rural	66.4	15.3	1.7	1.5	6.3	3.8	0.4	2.5	0.7	1.4	100
<i>Sex</i>											
Men	81.3	4.1	1.3	1.5	3.3	1.2	0.3	2.5	1.2	3.3	100
Women	51.3	24.7	1.5	1.4	8.8	4.1	0.3	3.5	1.0	3.5	100
<i>Racial group</i>											
Africans	67.0	14.3	1.7	1.6	6.1	3.7	0.4	2.5	0.9	1.8	100
Coloreds	55.5	18.3	1.2	2.1	8.5	2.1	0.2	6.1	2.5	3.5	100
Asians	49.0	15.5	1.2	1.7	18.3	2.9	0.2	9.0	0.5	1.6	100
Whites	54.9	23.3	0.5	0.7	6.6	1.0	0.0	3.2	1.2	8.5	100
<i>Marital status</i>											
Never married	48.4	5.2	9.3	8.1	6.9	5.4	2.1	8.6	4.0	1.9	100
Married (civil or religious)	61.5	31.1	0.5	0.3	3.3	1.1	0.0	1.3	0.4	0.6	100
Married (traditional)	65.8	21.5	0.8	0.7	4.8	2.9	0.2	1.5	0.5	1.3	100
Living together	62.2	28.8	1.0	0.6	2.2	1.2	0.2	1.6	1.6	0.7	100
Widowed	72.8	0.5	0.5	1.3	12.9	5.0	0.1	4.9	1.2	0.8	100
Divorced	72.4	1.4	1.8	3.7	8.5	2.7	0.2	5.2	3.3	0.7	100
Others	6.4	1.8	1.0	0.4	1.8	1.5	0.2	1.2	1.1	84.6	100
<i>Province</i>											
Western cape	55.4	20.3	0.8	1.5	7.2	1.4	0.1	4.6	1.9	6.8	100
Eastern Cape	68.4	15.1	1.5	2.0	4.7	1.6	0.2	3.2	0.8	2.5	100
Northen Cape	60.5	18.9	1.0	1.9	5.8	2.1	0.3	3.8	1.4	4.4	100
Free State	62.6	17.4	1.3	1.1	7.5	3.0	0.2	2.5	0.7	3.6	100
Kwazulu Natal	62.8	16.0	1.5	1.4	7.2	3.5	0.4	3.0	1.1	3.1	100
North West	65.8	16.6	1.5	1.5	6.0	3.0	0.4	2.6	0.5	2.1	100
Gauteng	59.4	18.3	1.2	1.3	7.0	2.3	0.2	3.1	1.8	5.5	100
Mpumalanga	64.5	17.6	1.7	1.2	6.6	4.3	0.4	2.3	0.7	0.7	100
Northen Province	64.2	13.6	2.0	1.1	7.9	5.8	0.5	2.6	0.6	1.7	100

<i>Total</i>	<i>63.0</i>	<i>16.7</i>	<i>1.4</i>	<i>1.4</i>	<i>6.6</i>	<i>3.0</i>	<i>0.3</i>	<i>3.1</i>	<i>1.1</i>	<i>3.4</i>	<i>100</i>
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Table 7: Odds comparing the probability of living in each type of household (population aged 60 and above)

	Related versus institutions (1)	Non-related versus institutions (2)	Related versus Non-related (3)
<i>Intercept</i>	113.34***	6.91***	16.40
<i>Age</i>			
60-64	0.76***	0.90	0.84
65-69	1.00	1.00	1.00
70-74	0.89*	0.73***	1.22
75-79	0.76***	0.54***	1.41
80 +	0.44***	0.41***	1.07
<i>Racial group</i>			
Africans	0.81**	0.49***	1.63
Coloreds=ref.	1.00	1.00	1.00
Asians	2.67***	0.62	4.32
Whites	0.66***	0.43***	1.53
<i>Sex</i>			
Men	0.57***	0.95	0.60
Women=ref.	1.00	1.00	1.00
<i>Place of residence</i>			
Urban	0.58***	0.93	0.63
Rural=ref.	1.00	1.00	1.00
<i>Province</i>			
Western Cape	1.08	0.94	1.15
Eastern Cape	1.85***	1.08	1.71
Northern Cape	1.50**	0.83	1.81
Free State	1.23**	0.54***	2.27
KwaZulu Natal	0.87*	0.68***	1.27
North West	1.42***	0.50***	2.85
Gauteng=ref.	1.00	1.00	1.00
Mpumalanga	3.76***	1.85***	2.03
Northern Province	1.72***	0.83	2.07
<i>Marital Status</i>			
Never married=ref.	1.00	1.00	1.00
Married	2.67***	0.26***	10.25
Widowed	2.35***	0.73***	3.21
Divorced	3.21***	2.15***	1.49
Others	0.00***	0.01***	0.56
N	258 536		
Degree of freedom	5.00E+03		
Likelihood ratio	7787.27***		

* p<0.05; **p<0.01; ***p<0.001

Table 8: Odds comparing the probability of living in each type of household (population aged 80 and above)

	Related versus institutions (1)	Non-related versus institutions (2)	Related versus Non-related (3)
Intercept	42.49***	5.00***	8.49
<i>Racial group</i>			
Africans	1.60*	0.49*	3.26
Coloreds=ref.	1.00	1.00	1.00
Asians	1.90	0.17	11.27
Whites	0.36***	0.31***	1.16
<i>Sex</i>			
Men	0.96	1.41*	0.68
Women=ref.	1.00	1.00	1.00
<i>Place of residence</i>			
Urban	0.57***	0.55***	1.04
Rural=ref.	1.00	1.00	1.00
<i>Province</i>			
Western Cape	0.99	0.99	1.00
Eastern Cape	0.89	0.61	1.45
Northern Cape	1.19	0.96	1.23
Free State	1.21	1.15	1.06
KwaZulu Natal	1.08	1.05	1.03
North West	1.04	0.45*	2.33
Gauteng=ref.	1.00	1.00	1.00
Mpumalanga	3.84***	1.22	3.16
Northen Province	1.20	0.85	1.41
<i>Marital Status</i>			
Never married=ref.	1.00	1.00	1.00
Married	4.18***	0.28***	14.94
Widowed	3.18***	0.71	4.47
Divorced	19.41***	4.66	4.17
Others	0.00***	0.01***	0.74
N	28 731		
Degree of freedom	880		
Likelihood ratio	1190.77***		

* p<0.05; **p<0.01; ***p<0.001

Notes

¹ - For the follow up and the evaluation of the national development plan started after the abolition of apartheid, South Africa has decided to conduct a census every 5 years instead of 10 as recommended by the United Nations (United Nations, 1980).

² - This apparent decline only appears when the trends are presented by sex. The trend for both sex shows a slight increase (see also Haldenwang ,1999).