Grandparenthood in the context of ageing in South Africa

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For technical enquiries please contact:

Mercy Shoko
Demographic Analysis
Tel   : +27 12 310 8964
Email   : mercysh@statssa.gov.za

Preface

The report is a culmination of a successful collaboration within Statistics South Africa (Stats SA), between two divisions in the Population and Social Statistics Cluster: Demographic Analysis and Labour Statistics along with an external organisation, the MRC/Wits University Rural Public Health and Health Transitions Research Unit (Agincourt), which runs the Agincourt Health and Socio-Demographic Surveillance System (HDSS). The collaboration involves the use of the cross-sectional data from Time Use Survey (TUS) which is a sample survey, and national censuses (Census 1996, 2001 and 2011) both collected by Stats SA, which is the national statistical agency; and the Agincourt HDSS data which are prospective, longitudinal data on a geographically-defined population in Bushbuckridge, Mpumalanga. The use of the three data sources was to benefit from the strengths of each and in part overcome the limitations of each, in a form of triangulation. Censuses and nationally representative sample surveys provide a national picture and the Agincourt HDSS data allows establishment of the sequence of events and a temporal perspective in the analysis.

Grandparenthood occupies an important role in South Africa.

Risenga Maluleke

Statistician-General

Executive Summary

The increased human survival experienced over time not only extends the period in which individuals are grandparents but increases the chance of individuals making the transition to grandparenthood. Grandparenthood is associated with older ages, the assumption which may not hold, because, unlike ageing whose age cut-off refers to populations or subpopulations at a given time, transition to grandparenthood is flexible and expected to be varied across populations. Grandparenthood depends on two demographic factors; mortality and fertility i.e. it depends on the age of childbearing for the mother and their biological off-spring and the survival of both the mother to make the transition, and the offspring to survive to have a live birth, and therefore its timing is variable across individuals.

Grandparenthood is a subject of great importance in South Africa, and the study explores its extent and timing, to set a tone for future research and to influence policy related to older adults. Research has largely looked at the grandparents' caregiving role particularly for the grandchildren. Although the timing of grandparenthood is important (Bornstein 2002), it has rarely been explored. The timing of grandparenthood can affect the well-being of individuals.

Three data sources are used, time use survey (TUS), three post-apartheid population censuses and Agincourt Health and Demographic Surveillance system (HDSS) data. The analysis is descriptive with results provided as counts, means and percentages. The analyses include estimation of the extent of grandparenthood, timing and likely impact of grandparenthood on households' time use.

The age structure of grandparenting shows how much younger the transitioning to grandparenting is for grandmothers, compared to grandfathers.

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Definition of terms

Transition to grandparenthood: the time at which an individual becomes a grandparent through a birth ocurring to one of their children.

Ageing: the demographic shift to older ages brought about by change in demographic components; fertility, mortality and migration.

Household: is in all the datasets defined as person/persons who occupy one or more housing unit, may be related or not related, characterised by shared resources. Time Use Surveys consider individuals who are present most of the time defined by being resident in the household for four nights a week in the last four weeks. In the same way, South African censuses capture usual household membership but for the purposes of household estimation, a *de-facto household definition* is used, so individuals are captured in relation to presence at the given location during the reference period. Agincourt HDSS include members who are temporary migrants but are considered part of the household, which is a *de jure household definition*.

Triangulation: Use of multiple data sources to gain understanding of a phenomenon from different perspectives (Patton 1999).

List of abbreviations and acronyms

Agincourt HDSS – Agincourt Health and Demographic Surveillance System

Stats SA – Statistics South Africa

TUS – Time Use Survey

UN – United Nations

SD – Standard deviation

CHAPTER 1: INTRODUCTION AND BACKGROUND

1. Introduction

Grandparenthood is an important phenomenon in demography, gerontology and sociology. In demography, it is mainly explored in the context of ageing, poised to become one of the most significant demographic phenomenon of the 21st century. In gerontology and sociology, it has been addressed in relation to the consequences at all levels: the individual, family, and the wider society (Werner, Lowenstein et al. 1998). This report seeks to explore grandparenthood in South Africa to address issues that characterise the three fields of study.

The aim of the report is to explore grandparenthood in South Africa and the objectives are:

i.   To estimate the older adult population disaggregated by age (ages 50+ and 60+) and sex, across Census 1996, 2001 and 2011;

ii.   To estimate the extent of household headship by grandparent/great grandparents over time;

iii.   To explore time use for individuals in households with members aged 50 years and older compared to those with no older adult member present;

iv.   To estimate the age-sex profiles and trends in parent and grandparent populations; and

v.   To estimate the timing of grandparenthood.

1.1 Background

Globally, research on the transition to grandparenthood has just recently become a subject of comprehensive research (Noy and Taubman – Ben-Ari 2016), although the general research dates back to the 1970s (Family 2003). Grandparenthood is also predominantly discussed as a social role usually linked to older adults (Werner, Lowenstein et al. 1998) although grandparenthood could be youthful (Sprey and Matthews 1982; Victor 2004; Ben Shlomo and Taubman – Ben-Ari 2016).

In the developed world, grandparenthood has evolved over time. Traditionally grandparents often assisted and complemented parental care but they are increasingly taking over parenting duties (Ben Shlomo and Taubman – Ben-Ari 2016). However, in South Africa, the historical legacy of high labour migration and non-marital childbearing has for a long time made many grandparents to be the primary caregivers of their grandchildren. This was later to be exacerbated by the HIV epidemic which resulted in the upsurge of adult morbidity and mortality with HIV progression, and childcare automatically fell on grandparents, although there is increased survival with the massive antiretroviral therapy (ART) roll-out in the country. South Africa still has the highest number of HIV infections in the world and has seen dramatic increase in AIDS-related deaths which peaked around 2007 (see Figure 1).

Figure 1: Trends in adult deaths (for ages 20–59 years) by sex, for years 1990–2014
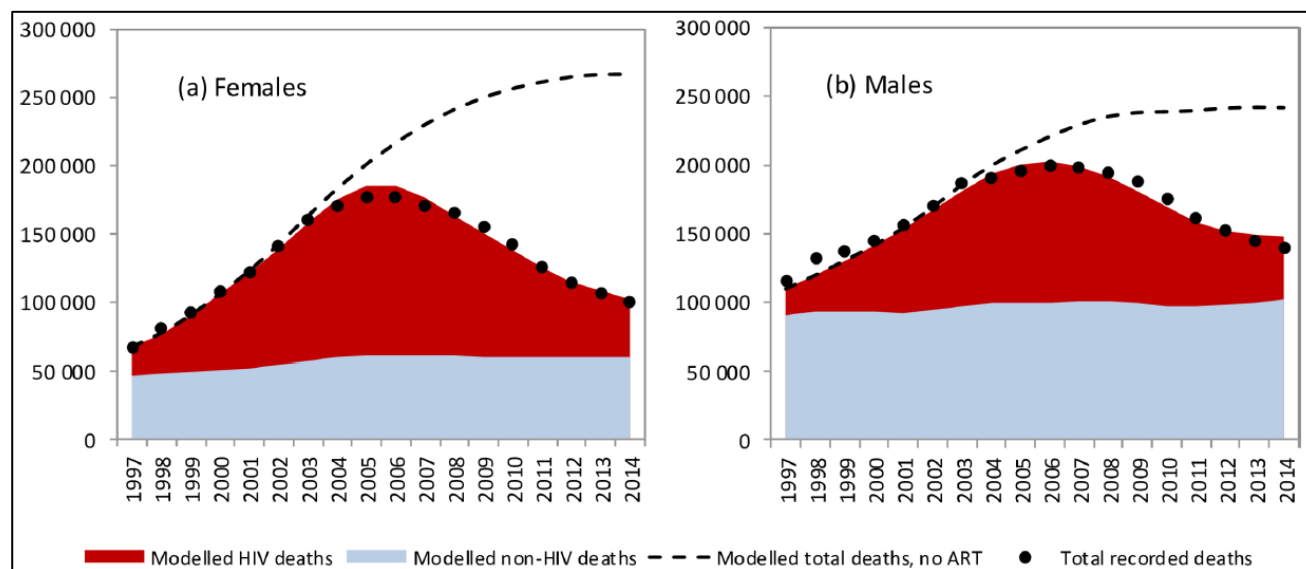
(Source UNAIDS – Johnson et al 2017)

1.2 Grandparenthood and ageing

Population ageing is the shift in the age distribution (age structure) of a population toward older ages. It is a consequence of the demographic transition associated with the epidemiological transition, i.e. decline in mortality (because of shift of disease patterns) and fertility (decline in motivation for bigger families with higher survival chances) - the two natural and major components of demographic change. This is to be associated with declining levels in the working age population, and the children already affected by the declining fertility, which has implications for policy including retirement ages (Börsch-Supan 2014). Ageing is chronological age defined, age-cut off which can vary in different contexts (Wiles 1987) and over time (Sanderson and Scherbov 2010). For example age 60 is the international age cut-off for ageing, largely based on retirement ages, but age 50 is recommended for sub-Saharan Africa considering biological, psychological, and social aspects (WHO u.d). Ageing cut-off can also change with increased survival, as the characteristics of ageing are also expected to change (Sanderson and Scherbov 2010). The analogy used by the authors is that the 60-year-olds currently are very different from the 60-year-olds of 50 years ago.

Grandparenthood relates to a life-course (Komp and Johansson 2016) and is a clearly defined status which is individually determined (Family 2003) and affects other stages in the life course e.g. grandparenthood is linked to retirement (Kridahl, 2017). Transition to grandparenthood is associated with a change in status, roles and identities which vary greatly in different contexts (Noy and Taubman – Ben-Ari 2016). However, the concepts of grandparenthood and ageing are related because the normative age at child bearing may be linked to the timing of grandparenthood and the social definition of ageing, but may diverge from social expectations (Noy and Taubman – Ben-Ari 2016). Therefore, unlike ageing, grandparenthood occurs "within a wider and more flexible age range" (Noy and Taubman – Ben-Ari 2016).

The mortality gains made due to declining adult mortality allow individuals to live longer to see a third generation, allowing individuals to experience grandparenthood and even for longer periods than before (Werner, Lowenstein et al. 1998). Fertility and the determinants thereof e.g. individual fertility decisions also affect individuals' transition to grandparenthood, marked by the birth of the first grandchild (Noy and Taubman – Ben-Ari 2016). Transition to grandparenthood is influenced by an individual's own and their biological offspring's transition to parenthood, including its timing. Therefore, it depends on the fertility decisions - assuming childbearing is in the control of an individual woman. As such, childlessness, whether voluntary or otherwise[1] by the potential grandparent or their offspring does not give rise to grandparenthood (Szinovácz 1998).

Timing of first childbirth can have generational effect, i.e. early childbearing would be linked to early transition to grandparenthood and vice versa because of underlying socio-economic factors. Postponement of childbearing because of factors including education can affect the prospects of grandparenthood or the timing thereof, which may or may not be consistent in subsequent generations. Research suggests that education is associated with timing of grandparenthood (Skopek and Leopold 2017). Also important is that young age at first childbirth, in part because of the high adolescent childbearing (National Department of Health et al. 2017) may be accompanied by relatively long intervals with subsequent birth/s, a fertility pattern which is characteristic of South Africa (Moultrie and Timaeus 2002). This potentially results in early grandparenthood and overlap with parenthood. However, short birth-spacing may also affect transition to grandparenthood, because of higher risk of one offspring, not necessarily the first one giving birth (Victor 2004).

Timing of the transition to grandparenthood is associated with success in playing the grandparent roles (Kivett 1998). It has a bearing on the capacity to perform other roles, influence individual's age identity (Noy and Taubman – Ben-Ari 2016), extent of overlap with parenthood and duration in the state of grandparent (Werner, Lowenstein et al. 1998). It also influences transition to great-grandparenthood. Furthermore; the timing of the transition is equally important because it potentially affects the quality of grandparent care. The quality of grandchild care may be compromised if there is mutual dependence between grandparent and grandchildren, largely because of frailty of grandparents due to advanced ages (Foster and Williamson 2000; Kasedde, Doyle et al. 2014).

Grandparenthood is special for grandparents, reported to provide greater satisfaction (Ben Shlomo and Taubman – Ben-Ari 2016). Grandparents have vested interests in the upbringing of their grandchildren and more than other kin, and take a keen interest in the upbringing of their grandchildren (Bruce-Alexander 2012). In other countries also ravaged by HIV in Southern Africa, children preferred grandparent care even in the face of poverty (Mann 2002). This partly explains the widespread grandparenthood research on the caregiving role of grandparents.

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[1] This is also seen in South Africa (Bimha and Chadwick 2016).

While older adults' context is different in time, but their role in South Africa and the rest of the continent is captured in many exciting proverbs that show that they possess insight and knowledge although they are sometimes challenged in the modern world (Makiwane et al. 2017):

Inyathi ibuzwa kwabaphambili interpreted "Wisdom is learnt from the elders"

Rihlanpfu le rintshwa ri tiya hi le ra khale interpreted "Older people are a source of wisdom for the young"

Chomukuru hachikumbirwi interpreted "Older people use their own discretion"

What the elders see while sitting, the young ones standing on their toes won't see

A house without a grandmother is like a road that goes nowhere

The words of the elders do not lock all the doors, they leave the right door open

The death of an elderly man is like a burning library

1.3 Overview of the chapters

Chapter 1 provides the background, chapter 2 is Methodology and chapter 3 discusses the results, discussions and conclusions.

CHAPTER 2: METHODOLOGY

2.1 Introduction

In the report three data sources are used; Censuses (1996, 2001 and 2011); time use survey (TUS) (2010) and the Agincourt Health and Demographic Surveillance System (HDSS). Census and time use survey are both cross-sectional and the Agincourt Demographic Health Surveillance System data are longitudinal data. The census is a full population count, important for reaching relatively smaller sub-populations, i.e. the older adult population from which a sizeable fraction of grandparents is found, time use survey is a sample survey unique for its tracking of respondents' use of time, and the Agincourt Health and Demographic Surveillance System data allows establishing complex relationships which include tracing extended family members. In the past, there has been successful triangulation of Agincourt HDSS and national census data (Collinson, White et al. 2016; Shoko, Collinson et al. 2016), and the Agincourt HDSS with other Stats SA datasets (Joubert, Bradshaw et al. 2014; Kabudula, Joubert et al. 2014).

Key to data analysis is the quality of the data. Fortunately, data for older adults are generally good for Southern Africa, (Randall and Coast 2016). Assessment of the census data has been done systematically (Dorrington 2013). The Agincourt HDSS has continuous data quality checks. For TUS, records with missing information on age are dropped from the data because age is key to inclusion for detailed interviews.

The analyses are mainly descriptive; which include counts, percentages and means informed by the data availability. Longitudinal data allows tracking of complex relationships, and census and TUS (sample survey) provide a national perspective. Census and TUS weights availed in the datasets are applied in the analyses.

2.2 Data sources

2.2.1 Census 2011

Statistics South Africa, the national statistical office conducts national censuses and three censuses have been conducted in post-apartheid South Africa, the era which is characterised by inclusive count of all population groups, as opposed to previous censuses. Weights are provided to account for the undercount reported in the three census.

2.2.2 2010 Time use survey

Statistics South Africa has conducted two Time Use Survey surveys, one in 2000 and the most recent in 2010, and the report uses the latter, to provide more recent information. The aim of the survey is to provide information on the way in which individuals in South Africa spend their time in line with the Beijing Declaration and Platform for Action (Africa 2017). The survey is a nationally representative sample of 30 000 households drawn through a complex sample design. The sampling methodology is detailed elsewhere (Statistics South Africa 2013).

The household section of the questionnaire is administered to the sampled households and the individual section to two individuals aged 10 years and older from sampled households. The latter includes a diary for the 24 hours preceding the survey, which provides a list of the activities between 04:00 on the day preceding the survey and 04:00 hrs on the day of the interview, recorded into half-hour slots. Respondents can provide upto three activities for any slot which could be sequential or simultaneous and allotted equal weighting to provide a breakdown of time use. Time use in the data is in 10 broad categories that are in turn, divided into the three broad System of National Accounts (SNA)-related categories of SNA production (work in establishment, primary production and work in non-establishments), non-SNA production activities (household maintenance, care of persons and community service), and non-productive activities (learning, social and cultural activities, mass media use, and personal care) which underlies the calculation of gross domestic product (GDP) and are in line with the UN classification system (Budlender 2010). Sampling weights are provided with the data to account for the multi-stage sample design, non-responses and to provide the national figures.

2.2.3 Agincourt Health and Demographic Surveillance System (HDSS)

The Agincourt HDSS is a member of International Network for the Demographic Evaluation of Populations and Their Health (INDEPTH) Network, a network of 52 demographic surveillance sites in low- and middle-income countries (LMICs) (Herbst, Juvekar et al. 2015). Agincourt Health and Demographic Surveillance System (HDSS) Centres is one of the three HDSS Centres in the country.

The Agincourt HDSS Centre is also a founder member, along with the other two South African HDSS Centres, namely the Africa Health Research Institute, in KwaZulu-Natal, and the Dikgale HDSS, at the University of Limpopo, in forming the network of HDSS Centres called the South African Population Research Infrastructure Network (SAPRIN). SAPRIN is a government funded infrastructure on which research that is externally funded is embedded. This is to encourage a state of science collaboration that is the national research infrastructure. This national project is committed to extend the footprint of the HDSSs in the country.

The Agincourt HDSS Research Centre in Mpumalanga was established in 1992, and has an annual survey to update the demographic and health information on the population (Kahn, Collinson et al. 2012). It is located in an area previously ethnic 'homeland' implemented during the Apartheid era. The site currently covers 27 villages and an area of 420 km, which is an extension from the original site. The population is composed of individuals of Mozambican origin who have settled there, and make up a third of the population, the rest which are South African (black African) (Ginsburg et al. 2016). Black African population group is one of the four population groups in the country and constitute the majority –approximately 80 per cent according to Census 2011. Details of the household and population are detailed elsewhere (Shoko, Collinson et al. 2016).

Figure 2: Location of the Agincourt HDSS
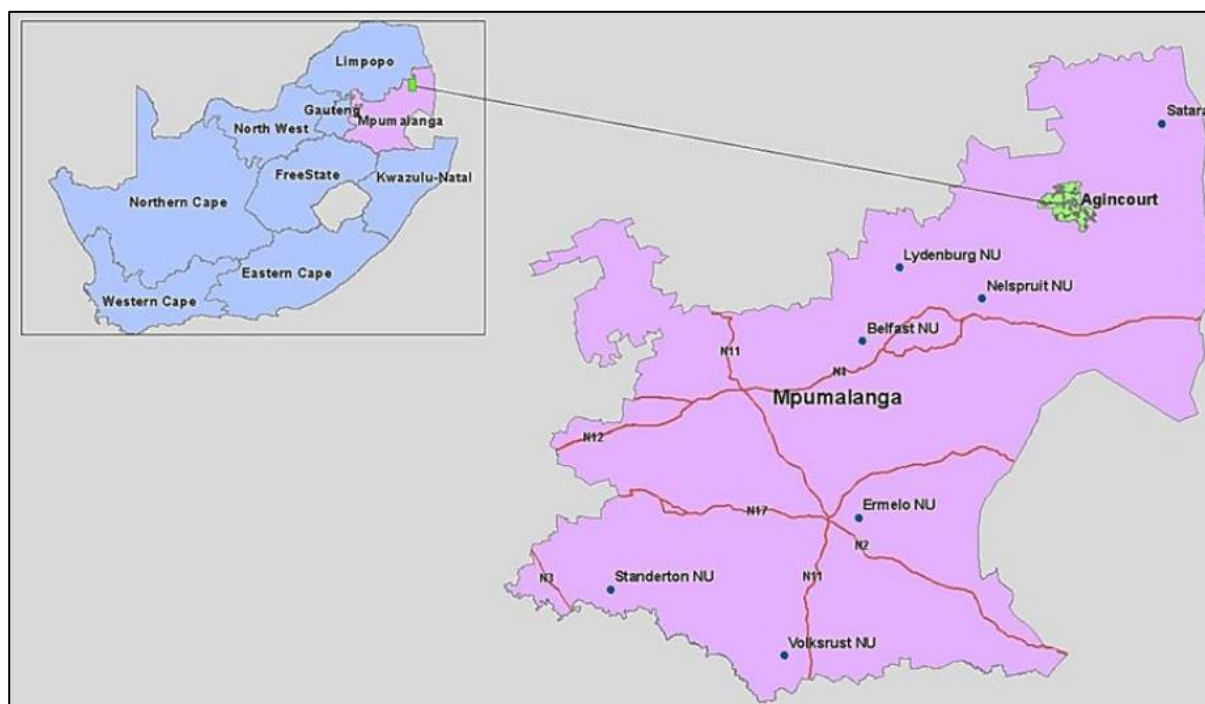
2.3 Why the three data sources

Apart from maximising the advantages of the three datasets; use of the three datasets allows exploration of multiple aspects relating to grandparenthood, i.e. demographic and social. Census data provide information about the trend in the size of the related older adult population and grandparent household headship, TUS provide time use for members in households where older adult population (aged 50 years and older) are present compared to those with no older adult member present, and HDSS provide the timing of transition to grandparenthood. This is reported as average age of first becoming a grandparent.

The data include population by age, age for parents and grandparents, time use, co-residence with parents and grandparents and household headship. The description of the variables is in Table 1.

Table 1: Variables used in the study

Variable name	Variable description	Operational definition	Data source
Age	Completed age	Age	Census/TUS/AHDSS
Grandparent household headship	Relationship to household head	One or more household members report the head to be their grandparent	Census
Age of mother/father (parent)	Ages of mother/father	Age of parent disaggregated by sex	Agincourt HDSS
Age of grandmother/ father (grandparent)	Age of grandmother/father	Age of grandparent disaggregated by sex	Agincourt HDSS
Co-residence	Co-residence with parents and grandparents	Co-residence with parents and grandparents disaggregated by sex	Agincourt HDSS
Time use	Time use for household members	Time use for members in households with an older adult member compared to those who are not	TUS

2.4 Analysis

The different datasets are used to address specific objectives:

1. Censuses 1996, 2001 and 2011

   i. To estimate the older adult population disaggregated by age (ages 50+ and 60+), and sex across censuses 1996, 2001 and 2011. Grandparents are a fraction of older adults, but can be used as a proxy for grandparents in the absence of a variable to directly identify grandparents in the data.

   ii. To estimate the extent of household headship by grandparents over time.

2. 2010 Time use survey

   i. To explore time use for individuals in households with members aged 50 years and older compared to those in households with no household member that is 50 years or older, hereafter called older adult persons households and younger adult persons households respectively. The former include individuals who are themselves 50 years and older and younger people (aged 10–49 years).

There is previous research on time use in South Africa but at individual level (Grapsa and Posel 2016). The exploration on household members in general shows potential influence of older adult members on the rest of the household members.

3. Agincourt Health and Demographic Surveillance System (HDSS)

i. To estimate the timing of parenthood and grandparent transition using mean age in years for parents and grandparents.

Individuals are traced to their parents and grandparents in the Agincourt HDSS and ages of the latter used to estimate average ages of transition to parenthood and grandparenthood. It is rare to be able to link individuals with parents and grandparents that do not reside in the same household in a population dataset, so it's important to draw all the evidence possible from co-resident household members.

CHAPTER 3: RESULTS, DISCUSSION AND CONCLUSIONS

3.1 Introduction

The research explores grandparenthood in South Africa using census, TUS and Agincourt HDSS data.

3.2 Results and discussion

3.2.1 Older adult population and grandparent household headship

Both 50 and older and 60 years and older population is gradually increasing over time, with marked increase for the former (Figure 3). This is consistent with research on the increasing older adult population with time and the sex differences in survival where females have better survival chances than their male counterparts.

Figure 3: Older adult population by sex and age group, Censuses 1996, 2001 and 2011

	Male	Female	Both sexes	Male	Female	Both sexes
		50+			60+	
1996	11.2	14.2	12.7	5.6	8.2	7.0
2001	12.0	15.2	13.7	5.9	8.7	7.3
2011	13.8	17.7	13.8	6.5	9.4	8.0
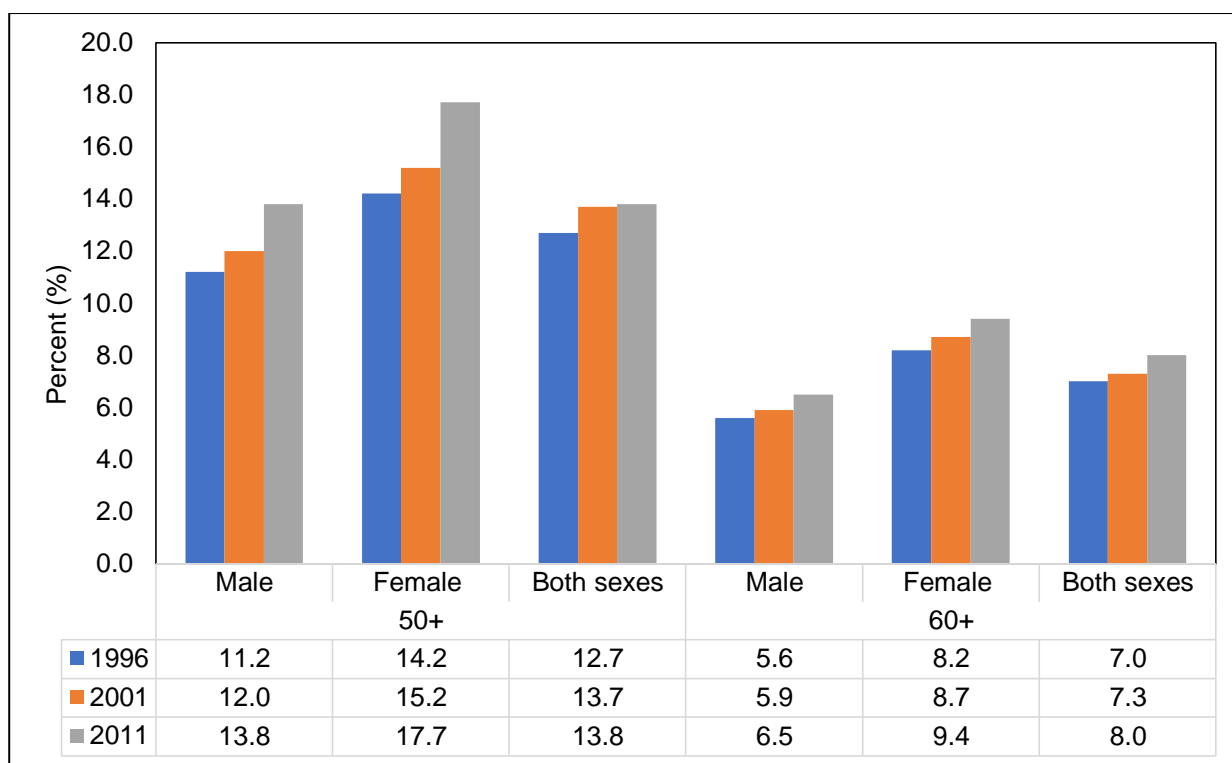
The household headship by grandparent remain largely unchanged, at around 12 per cent across censuses 1996, 2001 and 2011 (Figure 4).

Figure 4: Grandparent household headship
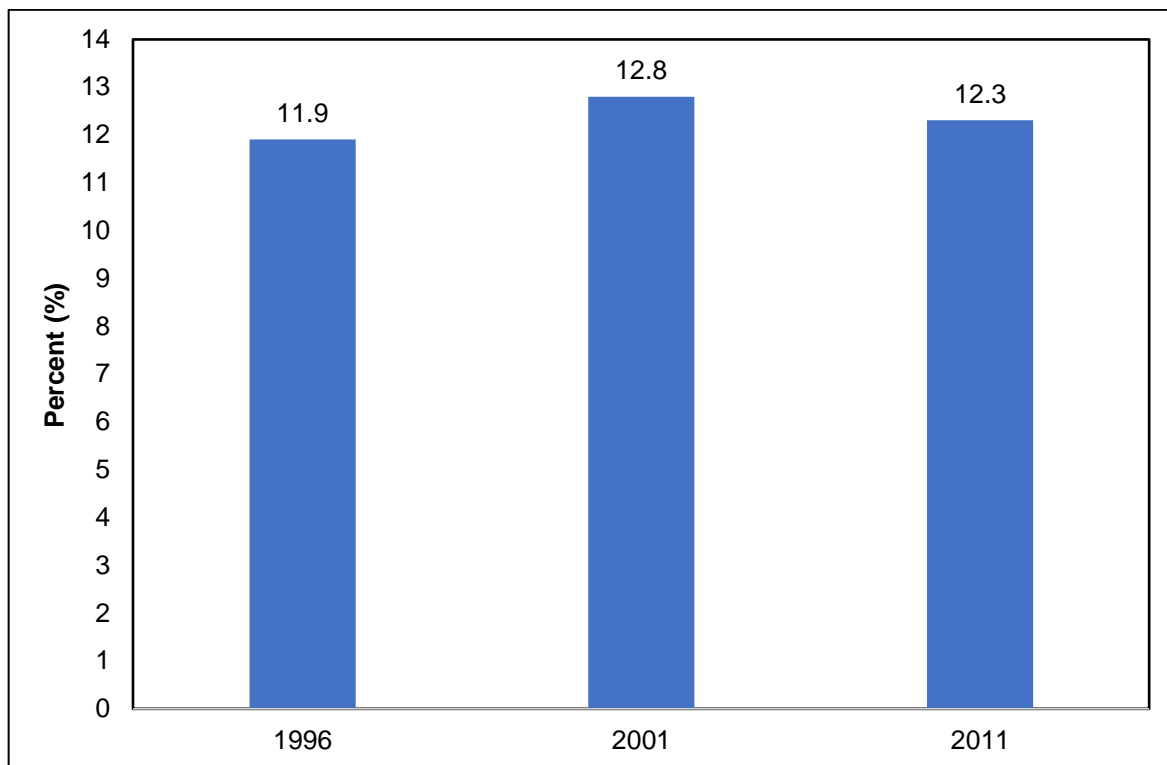
3.2.2 Time use for households by presence of older adults

A total of 20 054 individuals were interviewed, of which 9 505 were males and 10 549 were females. Time use in the 10 major activity categories varied between older and younger adult persons households (Table 2). In general, the former spent more time (expressed in average minutes) in non-productive categories, in primary production and household maintenance, and those in the latter, in the rest of the categories.

Figures 5 and 6 show the categories of time use when disaggregated by sex. They show that for males, there is no marked difference in time use for younger and older adult persons households, except for work in establishments (110 and 66 respectively, see Figure 5). However, for females (Figure 6), there is a marked difference for personal care and work in establishments (374 minutes for younger adult persons households and 410 minutes for older adult persons households being devoted to personal care; and 67 minutes and 42 minutes being devoted to work in establishments for these two groups respectively).

Table 2: Time use in the 10 major activity categories for individuals in older adult persons' households compared to younger adult persons households – both sexes

SNA* category	Older adult persons' households	Younger adult persons' households	Total
SNA production activities			
Work in establishments	108	178	**142**
Primary production	24	12	**18**
Work in non-establishment	9	12	**10**
Non-SNA production activities			
Household maintenance	145	141	**143**
Care of persons	15	20	**17**
Community service	5	4	**5**
Non-productive activities			
Learning	66	70	**68**
Social and cultural activities	153	136	**145**
Mass media use	143	133	**138**
Personal care	775	734	**754**
Total	**1 440**	**1 440**	**1 440**

* SNA: System of National Accounts categories of productive activities

Figure 5: Time use (average minutes) in the 10 major activity categories for individuals in older adult persons households compared to younger adult persons' households – males
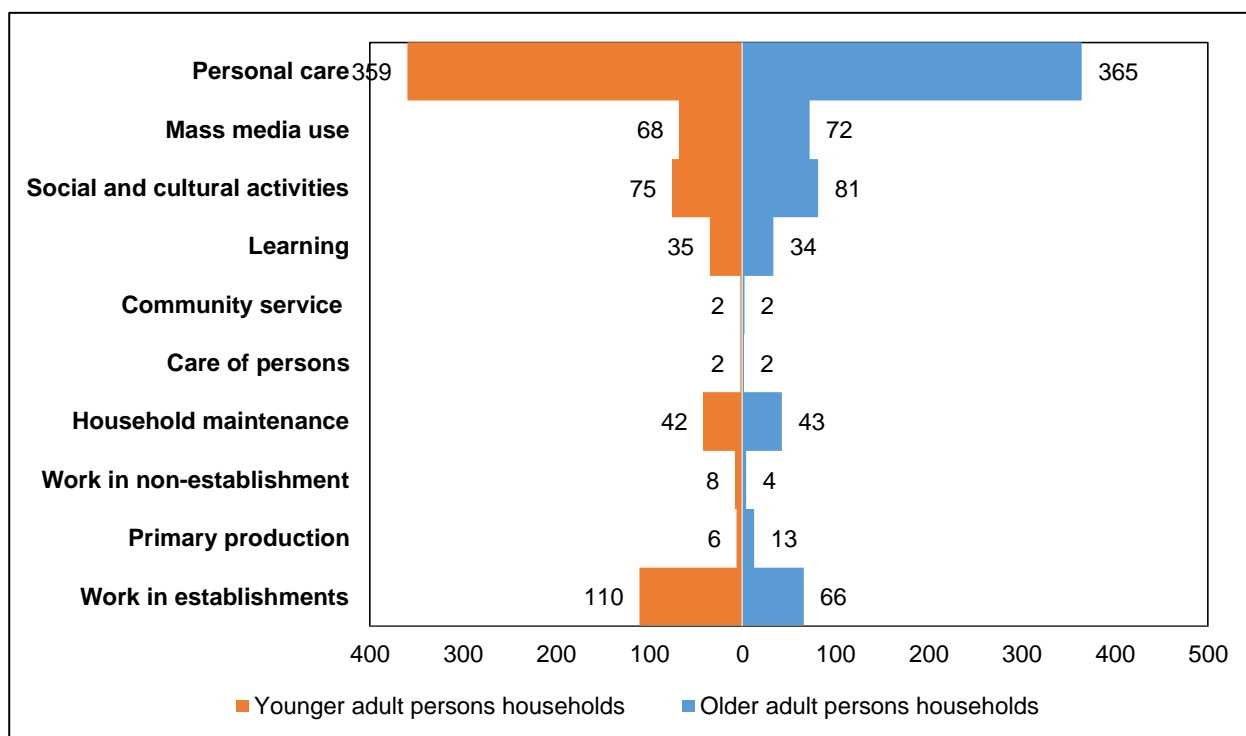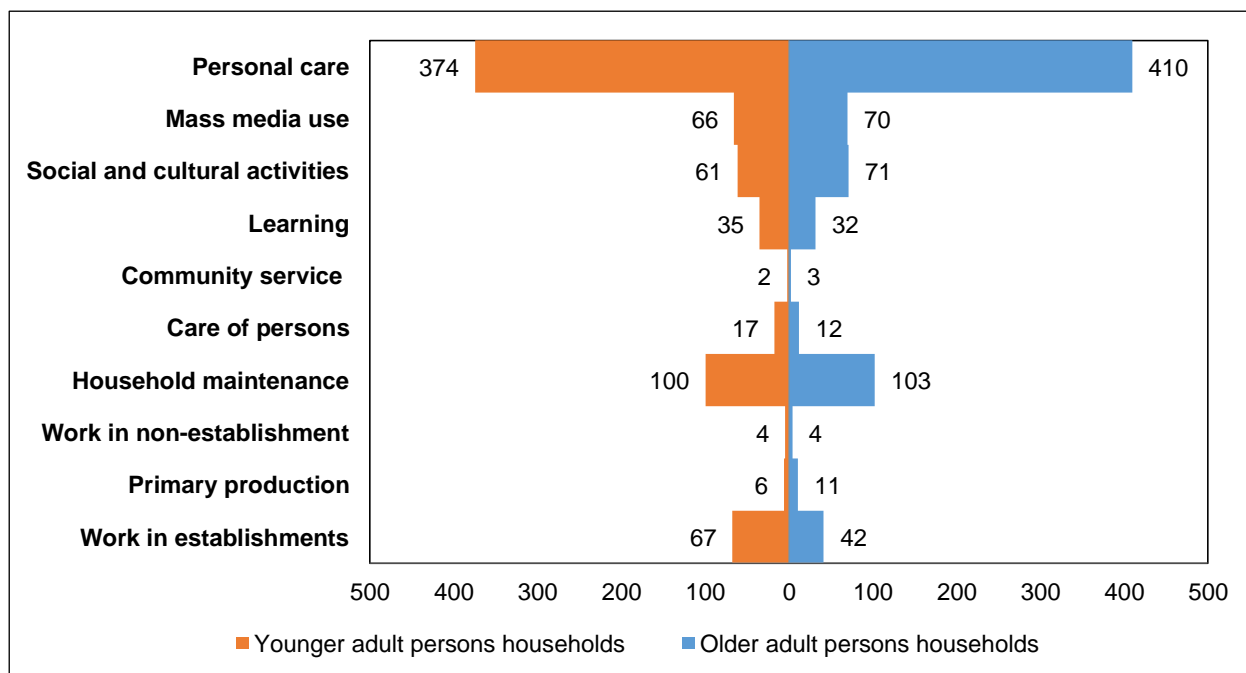

Figure 6: Time use (average minutes) in the 10 major activity categories for individuals in older adult persons' households compared to younger adult persons' households - females

3.2.3 Co-residence

The analysis of the population provides a context of the parent and grandparenthood in the population under study (Table 3). Analysis reveals a sizeable population of both parents and grandparents, but as expected parents are more than grandparents. Sex differences are evident in both parents and grandparents: as there is one male for every two females.

Table 3: Agincourt population: permanent residents and linked temporary migrants (i.e. de jure population) by age, sex and parent and grandparenthood status

Age group	Total population		Parents		Grandparents	
	F	M	F	M	F	M
0–9	11 976	11 976	0	0	0	0
10–19	11 990	11 577	757	27	0	0
20–29	12 472	12 312	7 826	1 413	0	0
30–39	9 125	8 812	7 814	3 827	297	40
40–49	5 800	5 030	5 178	3 316	2 098	551
50–59	3 961	2 986	3 598	2 337	2 854	1 301
60–69	2 410	1 719	2 168	1 419	1 927	1 122
70–79	1 503	768	1 296	637	1 125	554
80–89	1 041	286	841	228	709	184
90+	248	78	188	53	151	42
Total	**60 526**	**55 544**	**29 666**	**13 257**	**9 161**	**3 794**
Percentage (%)	100,0	100,0	49,0	24,0	15,0	7,0

Birth cohorts show diminishing levels of co-residence of parents and grandparents as the cohorts get older (Table 4). For children born in the 2010–2016 cohort, 96% have the mother co-resident, 40% have the father co-resident, 38% maternal grandmothers, 22% maternal grandfathers, 17% paternal grandmothers and 11% paternal grandfathers. The relative percentage in each group is consistent across birth cohort, i.e. mothers are most likely to be co-resident and paternal grandfathers least likely. Naturally, co-residence of mothers reduces as cohorts age, from 97% in 2010–2016, to 87% in 2000–2010, to 74% in 1990–2000, to 58% in 1980–1990, and 43% in 1970–1980.

Birth cohorts older than 1970 are much less likely to have parents and grandparents present. This makes sense because people in this cohort are aged 46 years and older. The main reason for rapid decline of co-residence as cohorts get older is attrition through mortality of parents and grandparents (mortality increases with age), and adults having separate households from parents and grandparents given the reported average household size of 5.6 (Shoko et al. 2016).

Table 4: Per cent of parents and grandparents that are co-resident with their children or grandchildren, in the Agincourt study population, by birth cohort

Description	Birth cohort								
	2010–2016	2000–2009	1990–1999	1980–1989	1970–1979	1960–1969	1950–1959	1940–1949	1930–1939
Mother	96	87	74	58	43	28	15	6	2
Father	40	41	38	33	24	12	4	1	0
Maternal grandmother	38	27	15	7	2	1	0	0	0
Maternal grandfather	22	16	8	3	1	0	0	0	0
Paternal grandmother	17	14	7	4	2	1	0	0	0
Paternal grandfather	11	8	3	1	0	0	0	0	0

3.2.4 Age transition into parenthood

The age of transition into motherhood is fairly stable at 21 years with a modest decline from 1970 to 1989, with an average age of 21,8 (13,6–30) years for individuals born in 1970–1979 to 19,9 (15,3–24,5) for individuals born between 1990 and 1999, to 21,4 (16,5–24,3) for people born between 2000 and 2016 (Figure 7 and Table 4). There may be a gradual increase in the average age of transition to motherhood over the last 26 years.

The age of transition to fatherhood is stable showing an average age of 27 (19,1–36,1) years for birth cohorts between 1970 to 2009 (Figure 7 and Table 5). It is not surprising that the age of transition to fatherhood is slightly higher for children born between 2010–2016, at 28,6 (21,5–35,7).

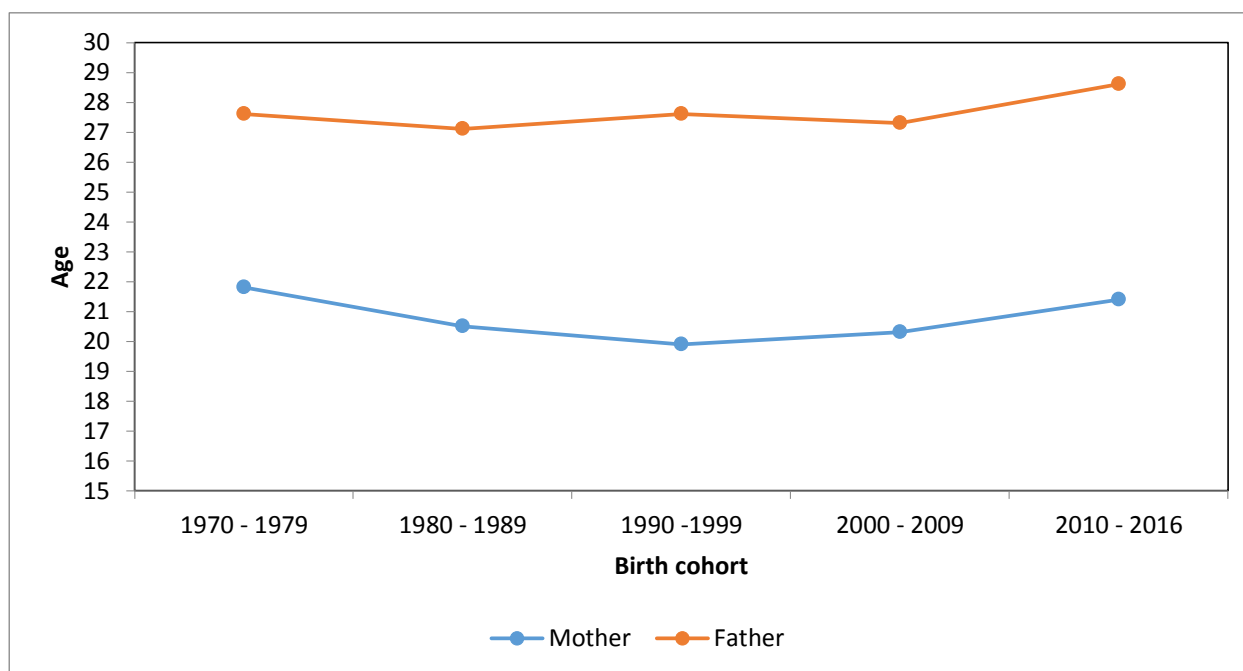**Figure 7: Average age of mother/father at first child's birth, Agincourt study population, by birth cohort**

Table 5: Average and standard deviation of age of mother/father at the time of first child's birth, Agincourt study population, by birth cohort

	Mother		Father	
Birth cohort	**Age**	**SD**	**Age**	**SD**
1970–1979	21,8	8,2	27,6	9,9
1980–1989	20,5	6,0	27,1	8,5
1990–1999	19,9	4,6	27,6	8,5
2000–2009	20,3	4,6	27,3	7,6
2010–2016	21,4	4,9	28,6	7,1

3.2.5 Age transition into grandparenthood

The best data for assessing time to transition to grandparenthood are in the younger (more recent) birth cohorts, from 1990 onwards. The older cohorts are at risk of grandparent attrition, through mortality, which increases rapidly as cohorts get older (Figure 8 and Table 6). The age of transition to grandparenthood gets younger as cohorts get older, partly because of early transition to parenthood in the past and early transition to grandparenthood. Life expectancy has also increased over time and might influence other decisions e.g. timing of transition to parenthood.

This temporal bias is especially high for grandfathers because the life expectancy of males is lower than females (according to established mortality patterns). The data with least attrition bias is from 1990 and

older. The age of transition to grandparenthood is more accurate in the younger cohorts, which give the best estimates of this indicator.

For maternal grandparents, the average age of transition to grandparenthood occurs at age 49 years for grandmothers, with a range of 39–59 years; and for grandfathers at age 54 years with a range of 43,5–64,5 years.

For paternal grandparents, the age of transition is higher than for maternal grandparents. Here, the temporal bias is higher due to higher starting ages and higher levels of mortality. The most accurate data on age of transition is for the cohort of children born in 2010–2016. The average age of transition to grandparenthood occurs at age 54,5 years for paternal grandmothers, with a range of 43,8–64,2 years; and for paternal grandfathers at age 59,9 years with a range of 48,5–70,3 years.

Figure 8: Average age of grandparents, Agincourt study population, by birth cohort, maternal or paternal

Table 6: Average and standard deviation of age of maternal grandmother/father at the time of first grandchild's birth, Agincourt study population, by birth cohort

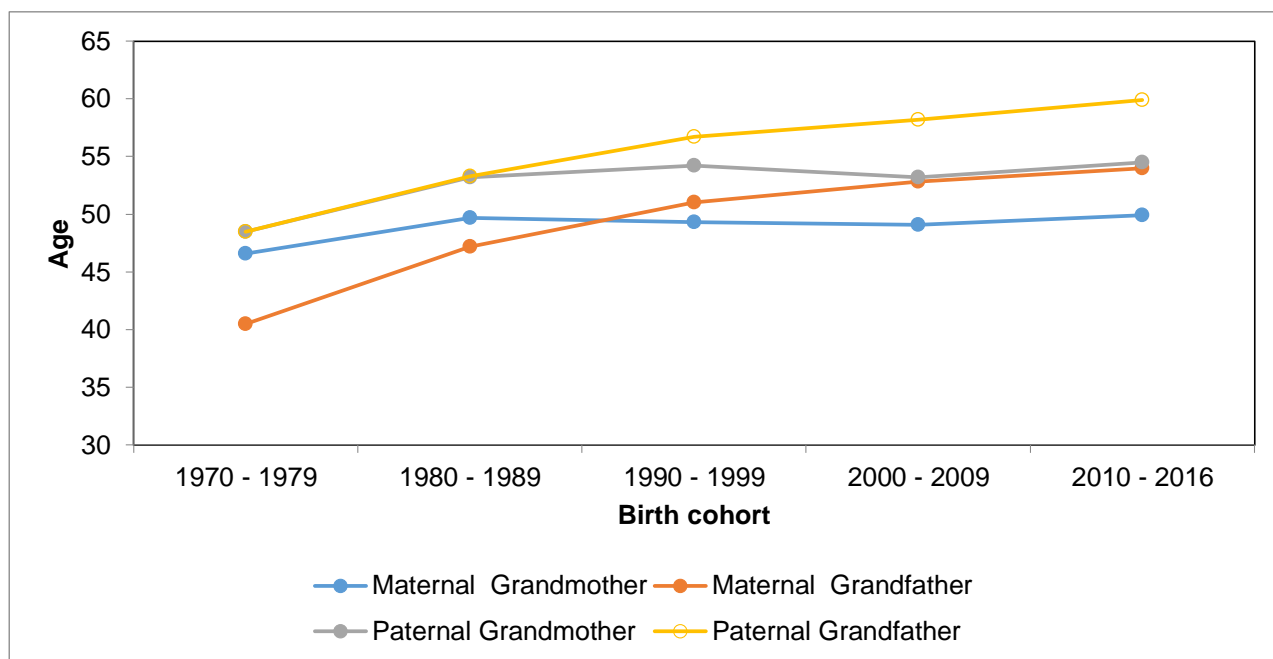|	Grandmother		Grandfather	
Birth cohort	**Age**	**SD**	**Age**	**SD**
1970–1979	46,6	9,5	40,5	19,1
1980–1989	49,7	10,0	47,2	14,9
1990–1999	49,3	11	51,0	12,6
2000–2009	49,1	10,2	52,8	10,7
2010–2016	49,9	10,0	54,0	10,5

Table 7: Average and standard deviation of age of paternal grandmother/father at the time of first grandchild's birth, Agincourt study population, by birth cohort

Birth cohort	Grandmother		Grandfather	
	Age	SD	Age	SD
1970–1979	48,5	9,4	48,5	20,1
1980–1989	53,2	10,2	53,3	14,5
1990–1999	54,2	10,3	56,7	12,3
2000–2009	53,2	10,7	58,2	11,7
2010–2016	54,5	10,2	59,9	11,4

3.3 Discussion and Conclusion

To examine the situation of older adults and grandparenthood in the context of an ageing population in South Africa, we have drawn evidence from a range of sources to piece together the picture.

A good question to start with is whether people are on average getting older? The national census has confirmed the hypothesis of an ageing population, especially the population of males and females aged 50 years and older. In this age group, for males, there is an increase of 1,8 % of the population between 2001 and 2011 and, for females, a 2,5% increase over this period. With this trend, South Africa is following the demographic road of other middle-income countries in line with the demographic transition theory and the resultant universal ageing. This is in part because of the marked improvements in hygienic living conditions and, despite huge health disparities, improved access to health care. It is an important finding, because older people require health and social services tailored to meet their needs. Also, grandparents can play a crucial role in child care when children's parents are both generating livelihoods, especially when both parents are labour migrants, which is often the case for rural households.

We have also seen that grandparents are sometimes household heads (in around 12% of households), which has a range of responsibilities attached.

The time use surveys reported here compare types of activities conducted in a 24-hour period, comparing younger with older adults. Interestingly, there is no marked difference in time use between younger and older adults, except that older males and females are less likely to be working in an establishment, but perhaps more likely to be engaged in primary production activities.

Parenting and grandparenting roles are vital for demographic, social and cultural reproduction. In this report, we asked questions about the average age at which people become parents and grandparents. Through computing these statistics in different age cohorts, we can determine how stable these averages are and whether the ages of parenting and grandparenting are changing over time. To examine this, we need health and demographic surveillance data which keep track of the same population for long periods of time. In the

case of the rural Agincourt sub-district of North-eastern Mpumalanga, the population of over 100 000 people has been monitored for over 25 years.

The average age of transition to fatherhood is fairly stable at 27 years. For transition to motherhood, 21 is the average age and fairly stable over the 46 years between 1970 and 2016. It is possible that the data are starting to show slightly older transitions to parenthood for fathers and mothers since 2000. This would fit with other evidence of marital unions occurring increasingly later in life.

Regarding grandparents, the data are clearer for grandmothers, for whom there is more evidence, because they are more likely to be co-resident with their grandchildren and therefore easier to identify as grandparents. The age of becoming a grandmother has been remarkably stable at about 50 for maternal grandmothers and 54 for paternal grandmothers. For grandfathers, there is less evidence because they are the least likely to be staying with their grandchildren, but, in the cases where they are co-resident, we can say that for children born in the last ten years their grandfathers were aged around 54, for maternal grandfathers, and 60, for paternal grandfathers. At the very least this implies that grandparenting occurs long before people are eligible for old age-pensions, which is 60 for both sexes.

The data have many limitations, but a fuller picture is shown by using different types of available data. To tackle the demographic, social and health consequences of an ageing population, studies like these must be deepened and added to. Especially important is to understand the changing disease patterns in an ageing population so that appropriate interventions can be targeted and delivered to keep ageing as healthy as possible. This, in turn, can have great implications for parents and children, who will benefit from having healthier elders to contribute to their lives.

3.4 Limitations

In the African context, children are not only biological, and every adult is a parent and every older adult is a grandparent, so grandparenthood can be exaggerated. Grandparenthood data may also be biased (undercounted) if the grandparents are not residing with their grandchildren in the study population. There are also racial differences (population groups, in the context of South Africa) to grandparenthood in terms of timing and co-residence between grandparents and children (Amorim et al. (2017). However, the data for Agincourt HDSS are exclusively for black Africans, and exclude the other three population groups; coloured; Indian/Asian and white. Therefore, further studies need to be fully inclusive to get a clearer picture of the concept of grandparenthood in the South African context.

In the national census grandparents and great grandparents are combined.

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