



Race Differences in the Loneliness of Older Adults: Evidence from South Africa

Dorrit Posel¹ 

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Abstract

Although the correlates of loneliness among older adults are very well explored in developed countries, there has been far less quantitative research in developing country contexts. This study helps to redress this research lacuna by investigating the loneliness reports of older adults (> 59 years) in South Africa. The analysis focuses on the considerable variation by race in how adults grow old, including in their living arrangements and socio-economic status. Using national micro-data collected in five waves of the National Income Dynamics Study, the study shows that older white adults report significantly fewer episodes of loneliness than other older adults, although they are far more likely to live alone. The gap in loneliness is greatest between older white and older African adults (who are the most likely to live with others), and it persists in multivariate regressions that control for a range of other differences in their individual and household characteristics. One possible explanation for these persistent race differences, which requires further examination, is that they reflect the importance of cultural factors, which are not adequately modelled, and which influence expectations of social interaction.

Keywords Loneliness · Older adults · Race · Household composition · Developing country

1 Introduction

Loneliness – or the subjective view that social relations are deficient (Perlman & Peplau, 1981) – is increasingly recognised as an important indicator of an individual’s social quality of life and as a public health concern, with negative consequences for both physical and mental health (Seeman, 2000; Cacioppo et al., 2006; Cacioppo & Patrick, 2008; Baarck et al. 2022). The past two decades have witnessed a proliferation of research on loneliness, attested by the number of recent meta- and systematic reviews of the prevalence and cor-

✉ Dorrit Posel
dorrit.posel@wits.ac.za

¹ School of Economics and Finance, University of the Witwatersrand, Johannesburg, South Africa

relates of loneliness (see for example, Prohaska et al., 2020; Chawla et al., 2021; Newmyer et al., 2021; Dahlberg et al., 2022; Surkalim et al., 2022; Akhter-Khan et al., 2023; Barjaková et al., 2023). These reviews identify that while populations in developed countries have been extensively studied, there has been far less research on loneliness in developing country contexts.

This study augments the existing research by investigating differences in the loneliness reports of older adults in South Africa. South Africa has one of the largest older populations in Africa (He et al., 2020), and the country's vision is to increase life expectancy further, from 61 to 70 years by 2030 (National Planning Commission 2012; Solanki et al., 2021). However, there are substantial differences in how adults grow old, and in the post-apartheid period, race remains a significant socio-economic stratifier. For example, for both cultural and economic reasons, black Africans (the majority population) are far more likely to grow old living with other family members and typically in multigenerational households, while older whites are considerably more likely to live alone, or with only one other older person (Møller, 1998; Burns et al., 2013; Schatz et al., 2015; Ralston et al., 2019; Moore, 2023).

As living alone is consistently identified as a highly significant correlate of loneliness (Barjaková et al., 2023), we might expect a greater prevalence of loneliness among older white adults. There are very few quantitative studies of loneliness among older adults in South Africa, but regionally specific research finds that loneliness rates are indeed higher among older white adults (Ntozini & Abdullahi, 2021). However, this finding is not corroborated in other research, which uses national cross-sectional data and estimates that loneliness rates are highest among older adults who are of Asian descent (Phaswana-Mafuya & Peltzer, 2017).

Although loneliness is recognised as being socially and culturally shaped (De Jong-Gierveld et al., 2012; Ozawa-de Silva & Parsons, 2020; Barjaková et al., 2023), there are also relatively few international studies that have explored race differences in loneliness. Of these, most investigate loneliness in the US, but findings on race differences are not consistently significant, particularly in a multivariate context that controls for socio-economic status (Hawkey et al. 2008; Greenfield & Russell, 2011; Dahlberg et al., 2022; Barjaková et al., 2023).

This study interrogates race and loneliness using national longitudinal data for South Africa, and it affirms that race is significantly correlated with the frequency of loneliness in the country. However, in contrast to previous research, it finds that it is older African adults who are the most likely to report feeling lonely at least some of the time during the week, even though African adults are the most likely to grow old in households with children and working-age adults. This finding is robust to multivariate regressions that control for a range of different covariates that are correlated with race, including sizeable differences in socio-economic status, as well as priori reports of loneliness, which offer some control for unobserved individual characteristics that may affect the propensity to feel or to report being lonely.

The persistence of race as a significant marker of loneliness suggests that there are other characteristics of older adults that differ by race and that influence the subjective experience of loneliness, which cannot be adequately accounted for in the regression analysis. These include cultural differences that may affect the expectations of social interaction, and therefore the “threshold” at which people start to feel lonely (Johnson & Mullins, 1987: 269). In South Africa, white culture is often described as more “individualist”, with an emphasis

on individual independence and achievement, while African culture is identified as more “collectivist”, with a greater focus on extended family and the community (Eaton & Louw, 2000; Amoateng et al., 2007; Van Zyl et al., 2018; Adams et al. 2012). Research from developed countries has found that the prevalence of loneliness is higher in societies with more collectivist than individualist norms (Jylha & Jokela, 1990; Dykstra, 2009; Yang & Victor, 2011; De Jong-Gierveld et al., 2012; Hansen & Slagsvold, 2016).

The next section briefly reviews findings on the common correlates of loneliness from studies based particularly in Europe and North America, and it explains the South African context, including why race differences in growing old persist in the post-apartheid period. Section 3 outlines the national micro-data that are analysed, how information on loneliness is captured and the variables and methods that are used in the empirical analysis. Section 4 describes differences in the individual and household characteristics of older adults and provides a bivariate analysis of the prevalence of loneliness. Section 5 then investigates variation in loneliness among older adults in a multivariate context, and Sect. 6 discusses the key findings from the study and concludes the research.

2 Review

2.1 Correlates of Loneliness: A Brief Review

A focus area of the quantitative research on loneliness is on older adults living in developed countries, typically in the Global North. Older adults are identified as one of the cohorts at risk (Pinquart & Sorensen, 2001; Hawkey et al., 2022) partly because getting older is associated with a loss of social networks, as people leave the labour market or experience physical health issues that make social interaction difficult (Dykstra et al., 2005; Greenfield & Russell, 2011). Older adults are also more likely to suffer bereavement from the loss of a partner, and where households are nuclear and economic resources permit, this loss is often followed by older adults living alone.

In their review of over 100 studies from Europe and North America, Barjaková et al. (2023:1) conclude that “marital status, living arrangements and the characteristics of one’s personal social network are quite consistently found to be among the strongest predictors of loneliness”. Older adults who live alone typically report higher levels of loneliness, while the most protection comes from living with a partner (Greenfield & Russell, 2011; De Jong-Gierveld et al., 2012; Hansen & Slagsvold, 2016; Barjaková et al., 2023). This could indicate that on average, partners provide more psychological support than other family members (typically coresident children) and that coresident couples have larger social networks (including family related to both adults in the relationship) (De Jong-Gierveld & Tilburg, 1987; Schmitz et al., 2021).

In the absence of a partner, living with others may not provide protection against loneliness (Greenfield & Russell, 2011; De Jong-Gierveld et al., 2012), particularly in more individualist societies where “the residential independence of ageing parents and adult children is valued and feasible” (De Jong-Gierveld et al., 2012:171). In these circumstances, co-residence patterns may be the product of economic circumstance rather than tradition or culture, undermining relationships in the household and contributing to loneliness among older adults. In contrast, in more collectivist cultures, where multigenerational living is not

uncommon, co-residence has been found to be protective of older adult loneliness (De Jong-Gierveld et al., 2012), and particularly when older adults feel respected and recognised as contributing to the functioning of the household (De Jong-Gierveld et al., 2012; Ozawa-de Silva, 2020; Akhter-Khan et al. 2023).

However, research also suggests that the “loneliness threshold” (Johnson & Mullins, 1987: 269) is lower in collectivist cultures, because higher expectations of family interaction increase the level of social involvement needed to avoid loneliness. Consequently, studies have found that in the collectivist cultures of Southern and Eastern Europe, the anticipation of family and community is associated with a higher prevalence of loneliness than in Northern and Western Europe, which include more individualist societies (Jylha & Jokela, 1990; Dykstra, 2009; Yang & Victor, 2011; Hansen & Slagsvold, 2016).

Among the social and cultural correlates of loneliness, race has received relatively little attention, and as an indicator of discrimination or marginalisation, studies have focused more on loneliness among migrant or immigrant communities (Barjaková et al., 2023). Where studies have considered race, they have not produced consistent results, perhaps because studies have modelled different sets of covariates that could account for racial variation (Hawkey et al. 2008; Barjaková et al., 2023).

Cross-sectional studies frequently identify that higher socio-economic status is associated with lower levels of loneliness, and among older adults specifically (Pinquart & Sorensen, 2001; Cohen-Mansfield et al., 2009), but a significant association is not robustly attested in longitudinal studies from developed countries (Dahlberg et al. 2022). In lower- and middle-income countries, a systematic review of 24 qualitative studies found that among the contextual factors associated with loneliness, “poverty/socio-economic status was the most frequently mentioned across studies” (Akhter-Khan et al. 2023: 9). Although broad conclusions cannot be drawn from the qualitative studies, they suggest that protection afforded by socio-economic status may be particularly important among those who are resource constrained.

2.2 Older Adults and Loneliness in South Africa

Three decades after the end of apartheid, substantial race differences remain in how adults in South Africa grow old, both in their living arrangements and their socio-economic status. Studies have highlighted marked differences in household composition: older whites are far more likely than older Africans to live alone (Posel & Hunter, 2022), while most Africans grow old in multigenerational or extended households (Møller, 1998; Case & Deaton, 1998; Amoateng et al., 2007; Burns et al., 2013; Schatz et al., 2015; Ralston et al., 2019; Posel & Hunter, 2022). This is explained partly by the different kinship idioms that influence household formation, and as well by economic considerations.

Among whites, whose culture is often described as “individualist”, household formation largely reflects the ‘western’ conjugal system: households are formed around couples who typically leave their childhood homes to set up an independent household (Amoateng et al., 2007; Posel & Hall, 2021). Among Africans, whose culture is characterised as being more “collectivist”, household formation is based on a patrilineal system of descent: a married couple traditionally is absorbed into the husband’s homestead (Russell, 2003).

Very low and falling marriage rates since at least the 1960s and specifically among Africans (Hunter, 2010), further contribute to the complexity of older African adults’ house-

holds. As rates of union formation have declined, marriage increasingly has been separated from having children (Kalule-Sabiti et al., 2007; Posel & Rudwick, 2013). In the absence of a union, African children typically live with their mother, and this is often in the household of their grandmother (Schatz, 2007; Schatz et al., 2015). High rates of adult morbidity and mortality (for example during the HIV/AIDS pandemic), together with the labour migration of adults to other areas to find employment, have also meant that grandmothers are often the primary caregivers to children (Hosegood et al., 2007; Schatz, 2007; Moore, 2013; Hatch & Posel, 2018; Hall & Posel, 2019).

Race differences in the household characteristics of older adults in South Africa derive further from considerable variation in their socio-economic status. Older Africans, who would have been schooled during apartheid, are far less likely than older whites to have had formal employment and to have contributed to a private pension scheme. Rather, the majority relies on the social pension, or Older Persons Grant, a non-contributory, means-tested social grant payable to adults aged 60 years or older (Burns et al., 2013). Although worth only approximately half the value of the minimum wage in South Africa, the social pension is one of the largest available social grants, and when it was extended to all eligible South Africans at the end of apartheid, its value was about twice median per capita income in African households (Case & Deaton, 1998). In the context of very high rates of unemployment, receipt of the social pension has meant that rather than being dependents in multigenerational households, older African adults are often the only or a primary income provider, and studies describe how the social pension is used to support co-resident grandchildren and unemployed family members (Case & Menedez, 2007; Schatz & Ogunmefun, 2007; Bohman et al., 2009; Moore, 2013; Schatz et al., 2015).

In contrast to other older adults in South Africa, Africans are also far more likely to grow old in a rural area (Bank et al., 2020). This is partly because the costs of retirement are lower in rural than urban areas, but it reflects further the cultural importance of the countryside, as the place where ancestors are buried, and traditional ceremonies are typically conducted (Bank et al., 2020).

There are few quantitative studies that have explored loneliness among older adults in South Africa, and among these, race has either not been explored or studies have not produced consistent findings (Makiwane & Kwizera, 2006; Phaswana-Mafuya & Peltzer, 2017; Ntozini & Abdullahi, 2021; Banerjee et al., 2023). Makiwane and Kwizera (2006), for example, examine the well-being of older adults in one province in South Africa, but because very few whites were included in their survey, they were not able to undertake racial comparisons (Makiwane & Kwizera, 2006: 308). Ntozini and Abdullahi (2021) analyse loneliness and psychological well-being among older adults (65 years and above) and find that loneliness levels are higher among white older adults. However, the sample for the study is very small ($n=301$), regionally specific and not demographically representative, factors which “limit the generalizability” of the study’s findings (Ntozini & Abdullahi (2021: 387). Phaswana-Mafuya and Peltzer (2017) explore self-reported loneliness among a sample of adults aged 50 years and older, using data from a single question on loneliness (whether people felt lonely for much of the previous day), collected in the “Study of Global Ageing and Adults Health (SAGE) ($n=3624$). In contrast to other work, they find that loneliness levels are significantly higher among Asians (“Indians”).

This study adds to the literature on the correlates of loneliness among older adults by analysing national micro-data from South Africa. A key objective of the study is to inves-

tigate the nature of race differences in loneliness reports given the distinctive patterns in living arrangements and the socio-economic status of older adults. As the social pension is received by means-eligible men and women from age 60, this is taken as the lower age threshold to identify older adults.

3 Data and Methods

The data for the study are drawn from the five waves of the National Income Dynamics Study (NIDS), conducted in roughly two-year intervals from 2008 to 2018. The panel survey was coordinated by the Southern Africa Labour and Development Research Unit (SALDRU) at the University of Cape Town (UCT), with ethical clearance given by the UCT Commerce Faculty Ethics Committee. The anonymised data for all the waves are publicly available at <http://www.nids.uct.ac.za>.

The sample for NIDS was collected through a stratified, two-stage cluster sampling design, where primary sampling units were first drawn from a national master sample, and then dwellings within these units were selected. The household survey is designed to be nationally representative, but over the period that NIDS was conducted, approximately 27% of the original sample was lost through attrition. In all the analysis that follows, design weights supplied with the release of the NIDS data are used to estimate population totals that adjust for systematic differences in response rates across the different socio-economic groups (see Brophy et al., 2018 for further discussion). Methods to test and adjust for non-random attrition across the waves are outlined below.

Information on loneliness was collected in a module on mental health, which asked adults (defined as 15 years and older) the ten questions that make up the Center for Epidemiological Short Depression Scale (CESD-10). Included in this module is a question on loneliness, which probes whether adults felt lonely during the past week, with response options of “rarely or none of the time (less than 1 day)”; “some of the time (1–2 days)”; “occasionally or a moderate amount of time (3–4 days)”; and “all of the time (5–7 days)”.

Although some surveys include a set of questions that make it possible to develop multi-item scales, studies of loneliness often analyse responses to a single-item measure (Chawla et al., 2021; Newmyer et al., 2021; Dahlberg et al., 2022; Surkalim et al., 2022). Recent reviews have found that meaningful and robust information on loneliness is contributed even with measures derived from a single question (Reinwarth et al., 2023), and specifically from the question included in the CES-D10 (Newmyer et al., 2021).

However, direct questions on loneliness may result in underreporting if people see admitting to loneliness as a sign of weakness (De Jong-Gierveld et al., 2006). If there is a stigma attached to being lonely, then respondents may feel more comfortable admitting to loneliness some of the time, rather than all the time. To reduce concerns of a “social desirability bias” (Zerbe & Paulhus, 1987; Banerjee et al., 2023), therefore, this study identifies loneliness when older adults reported experiencing loneliness at least some of the time in the previous week.

The main focus of the analysis is on differences in loneliness by race or population group, where respondents are asked to self-identify their group across the four categories that are routinely identified in the population census and in household surveys in South Africa:

“African” (the majority population); “Coloured” (broadly of mixed race); “white” (of European descent); and “Indian/Asian” (of south Asian descent).

In addition to race, the other individual-level covariates considered in the empirical investigation are the older adult’s age, gender, years of schooling, marital status (never married, previously married (and now divorced or widowed), with currently married or cohabiting as the omitted category), health status (whether the older adult has a serious illness or disability), and religiosity (whether religion is important in the older adult’s life).

To capture co-residence in the households of older adults, the multivariate analysis first models whether older adults live alone. Subsequent regressions then omit this variable because they probe the relationship between household composition and loneliness. This is captured through the inclusion of four binary variables, which identify whether the household contains at least a young child (0 to 6 years); an older child (7 to 14 years); a working-age adult (aged 15 to 59 year); and an additional older adult (60 years or older).

The other household-level covariates that are modelled are the location of the older adult’s household (in a rural or urban part of the country), where rurality partly proxies for a more traditional way of life. As rural areas are typically far poorer and less well serviced than urban areas in South Africa, location may also capture access to economic resources and services.

Three other indicators of the household’s economic status are modelled: a money-metric measure (the logarithm of average per capita household income); a living conditions asset index which is divided into terciles; and a subjective assessment of the older adult’s household relative to other households in the village or suburb. For this assessment, the household could be among the “richest” (above or much above the average income of other households); “middle” (average); and “poorest” (below or much below the average income of other households, as the omitted category).

Unfortunately, the ability to include other covariates in addition to race, that capture cultural differences among older adults, is limited because relevant questions in the NIDS instrument are not included or included consistently across the waves.¹

To probe race differences in loneliness in a multivariate context, a range of ordered probit regressions are estimated, first for the pooled cross-sections:

$$L_{it} = f(R_{it}, X_{it}, C_{it}, S_{it}, t)$$

For individual i , in wave t , L_{it} , has four response options, increasing in the prevalence of loneliness, R_{it} represents the four race groups, C_{it} , other individual characteristics, X_{it} , living arrangements and S_{it} , socio-economic status. A subsequent regression introduces lagged measures of loneliness (L_{it-1}) to provide some control for unobserved characteristics that may influence the older adult’s propensity both to experience and report loneliness:

$$L_{it} = f(L_{it-1}, R_{it}, X_{it}, C_{it}, S_{it}, t)$$

A series of probit regressions to test for attrition across the waves (Fitzgerald et al., 1998) shows that the likelihood of older adults leaving the sample is positively and significantly correlated with loneliness particularly from waves 1 to 2 and waves 3 to 4. To test the

¹ For example, questions on prosocial behaviour in the neighbourhood are asked only in wave 1, while information on in-group (within race) trust is only collected in wave 5.

robustness of the findings to non-random attrition, the regression analysis was therefore repeated only for waves 2 and 3, and waves 4 and 5.

4 Descriptive Findings

In South Africa, there are sizeable and significant differences by race, in the households in which adults grow old, as well as in the individual characteristics of older adults. Differences are most pronounced between older whites and older Africans, and they partly signal socio-cultural differences in how households are formed, as well as the legacy of apartheid in influencing socio-economic status.

For example, Table 1 shows that on average, older whites live in the smallest households, where they typically co-reside with only one other (older) person. Although marriage rates are highest among older whites, and lowest among older Africans (Posel & Rudwick, 2013), older whites are also more than twice as likely to be solo dwellers, suggesting that following separation or the death of a partner, older whites mostly live alone.

In contrast, older Africans live in the largest households, with an average size of approximately five household members. Although they are significantly less likely to live with other older adults (given low rates of union formation), they are far more likely to live with young and older children. Living arrangements among older adults in South Africa therefore clearly differ by race.

Race also remains an important social stratifier of where older adults live and their socio-economic status. Africans are far more likely than other older adults to grow old in rural areas, highlighting the continued salience of the countryside in the retirement and aging of Africans (Bank et al., 2020). They report significantly lower levels of education than older whites and live in households with far fewer resources, differences that remain robust in comparisons of per capita household income, subjective measures (where the household ranks relative to others in the village or suburb), and an asset index.

Race differences in socio-economic status are also associated with persistent race differences in life expectancy over the post-apartheid period (Bredenkamp et al., 2021; Lam et al., 2024), and Table 1 shows that older African adults are significantly younger than older white adults. These differences help to explain why older whites are more likely than other older adults to report a disability or health condition.

Table 2 shows that the loneliness reports of older adults also diverge significantly by race. Overall, 37% of older adults reported feeling lonely at least sometimes during the week, with 4% feeling always lonely.² However, the share of older adults who felt lonely is considerably higher among older Africans, 42% of whom were lonely at least sometimes, and it is lowest among older whites (27%).

The bivariate statistics further show that loneliness reports vary considerably across individual and household characteristics that also differ significantly by race. For example, consistent with studies from developed countries (Barjaková et al., 2023), living arrangements

²When loneliness is measured as “always lonely”, then loneliness rates among older adults in South Africa are lower than in several low- and middle-income countries, including Mexico and Brazil (Banerjee et al., 2023). However, when measured as “at least sometimes lonely”, the extent of loneliness falls within the range of loneliness rates identified in a systematic review of studies from high income countries (Chawla et al., 2021: 6–7), where for adults aged 60 and older, the share who felt at least sometimes lonely ranged from 29 to 55%.

Table 1 Characteristics of older adults by population group

	African	Coloured	Indian	White
Individual characteristics				
Female	0.619 (0.008)	0.604 (0.024)	0.564 (0.056)	0.591 (0.026)
Average age	68.327 (0.103)	67.626 (0.294)	66.880 (0.691)	69.632+ (0.392)
Average years of schooling	4.010 (0.067)	5.682 (0.196)	6.700^ (0.336)	11.935+ (0.133)
Married/cohabiting	0.463 (0.008)	0.553* (0.023)	0.508 (0.056)	0.611+ (0.028)
Widowed/divorced	0.411 (0.008)	0.322* (0.021)	0.411 (0.056)	0.344 (0.028)
Health condition	0.499 (0.008)	0.565 (0.024)	0.570 (0.056)	0.615+ (0.027)
Religious	0.915 (0.005)	0.967 (0.010)	0.936 (0.027)	0.838+ (0.022)
Household characteristics				
Lives alone	0.105 (0.006)	0.084 (0.014)	0.164 (0.048)	0.271+ (0.027)
Average household size	5.224 (0.055)	4.282* (0.114)	3.957^ (0.313)	2.142+ (0.061)
Young child (0–6 years) ≥ 1	0.415 (0.008)	0.234* (0.019)	0.161^ (0.039)	0.014+ (0.004)
Older child (7–14 years) ≥ 1	0.508 (0.008)	0.317* (0.022)	0.229^ (0.044)	0.053+ (0.012)
Working-age adult (15–59 years) ≥ 1	0.781 (0.007)	0.751 (0.020)	0.677 (0.056)	0.300+ (0.024)
Older adults (60+ years) > 1	0.285 (0.007)	0.409* (0.023)	0.457^ (0.055)	0.556+ (0.027)
Rural	0.622 (0.008)	0.093* (0.009)	0.415^ (0.056)	0.051+ (0.008)
Richest households (subjective ranking)	0.112 (0.006)	0.089 (0.014)	0.101 (0.037)	0.172+ (0.024)
Average (middle) households	0.359 (0.008)	0.482* (0.024)	0.617^ (0.056)	0.582+ (0.027)
Poorest households	0.529 (0.008)	0.430 (0.024)	0.282^ (0.052)	0.246+ (0.023)
Log (per capita household income)	6.950 (0.014)	7.500 (0.032)	8.098^ (0.098)	9.116+ (0.068)
Asset index: highest tercile	0.249 (0.007)	0.572* (0.023)	0.576^ (0.056)	0.902+ (0.022)
Middle tercile	0.371 (0.008)	0.306* (0.021)	0.360 (0.054)	0.095+ (0.022)
Lowest tercile	0.380 (0.008)	0.122* (0.013)	0.064^ (0.032)	0.003+ (0.002)
Unweighted sample size	8479	1527	190	1117

Source: NIDS, waves 1–5 (2008–2018)

Notes: An older adult is older than 59 years. The data are weighted to represent population estimates. The sample includes older adults who appear in more than one wave. Standard errors are in parentheses. *^+ Means and proportions are significantly different between older Africans, and older Coloureds, older Indians and older whites, respectively, at the 95% level

Table 2 Loneliness reports (proportions) by characteristics of older adults

	Never/rarely	A little	Moderate	Often/always
Loneliness over the past week - overall	0.627 (0.008)	0.250 (0.007)	0.083 (0.004)	0.040 (0.003)
African	0.581 (0.008)	0.285 (0.007)	0.092 (0.005)	0.042 (0.003)
Coloured	0.650 (0.022)	0.215 (0.018)	0.088 (0.013)	0.048 (0.011)
Indian	0.687 (0.051)	0.151 (0.036)	0.107 (0.036)	0.055 (0.027)
White	0.734 (0.022)	0.179 (0.020)	0.053 (0.009)	0.035 (0.008)
Female	0.594 (0.010)	0.274 (0.009)	0.090 (0.005)	0.042 (0.004)
Male	0.674 (0.012)	0.214 (0.011)	0.073 (0.006)	0.039 (0.005)
Married/Cohabiting	0.717 (0.010)	0.205 (0.009)	0.056 (0.005)	0.023 (0.004)
Widowed/divorced	0.534 (0.013)	0.285 (0.012)	0.115 (0.007)	0.066 (0.006)
Never married	0.530 (0.022)	0.343 (0.021)	0.092 (0.011)	0.035 (0.007)
Health condition	0.619 (0.010)	0.249 (0.009)	0.089 (0.006)	0.044 (0.004)
Religious	0.628 (0.008)	0.250 (0.007)	0.084 (0.004)	0.038 (0.003)
Lives alone	0.504 (0.031)	0.276 (0.025)	0.132 (0.014)	0.088 (0.014)
Young child ≥ 1	0.621 (0.011)	0.279 (0.010)	0.072 (0.006)	0.028 (0.004)
Older child ≥ 1	0.625 (0.010)	0.265 (0.009)	0.076 (0.005)	0.034 (0.004)
Working-age adult ≥ 1	0.621 (0.009)	0.264 (0.008)	0.080 (0.005)	0.035 (0.003)
Older adults > 1	0.730 (0.012)	0.202 (0.011)	0.046 (0.005)	0.022 (0.004)
Rural	0.592 (0.008)	0.289 (0.008)	0.085 (0.005)	0.034 (0.003)
Urban	0.651 (0.012)	0.221 (0.010)	0.082 (0.006)	0.046 (0.005)
Richest households (subjective)	0.591 (0.029)	0.275 (0.026)	0.084 (0.012)	0.050 (0.012)
Average (middle) households	0.699 (0.012)	0.202 (0.010)	0.070 (0.006)	0.029 (0.004)
Poorest households	0.566 (0.011)	0.289 (0.010)	0.098 (0.006)	0.048 (0.005)
Asset index: highest tercile	0.710 (0.013)	0.196 (0.011)	0.064 (0.006)	0.031 (0.005)
Middle tercile	0.572 (0.014)	0.297 (0.013)	0.090 (0.007)	0.041 (0.006)
Lowest tercile	0.547 (0.012)	0.290 (0.010)	0.107 (0.007)	0.056 (0.006)

Source: NIDS waves 1–5 (2008–2018)

Notes: An older adult is older than 59 years. A young child is aged 6 years or younger, and an older child is 7 to 14 years. The data are weighted to represent population estimates. Standard errors are in parentheses

and marital status are significantly associated with loneliness. Of all the sub-groups shown in the table, loneliness reports are highest among older adults who live alone, almost half of whom were at least sometimes lonely, with 9% always lonely; and they are lowest among older adults who live with other older adults. In line with these patterns, older adults who are married or cohabiting with a partner are far less likely to report loneliness: for example, only 2% reported being always lonely, compared with almost 7% of widowed or divorced older adults. As women live longer than men, they are more likely to be widowed, which would help to explain why, in a bivariate context, a larger share of older women than men reported being at least sometimes lonely (40% compared with 33% of older men).

Loneliness reports also vary significantly by location and socio-economic status: compared to older adults who live in rural areas and in households in the lower two terciles of the asset distribution, those in urban areas and in households in the upper tercile are less likely to report being lonely (at least sometimes, or always). As race groups in South Africa are therefore distinguished by characteristics that are both positively and negatively related to the frequency of loneliness, multivariate regression analysis is needed to investigate race differences in loneliness further.

5 Regression Analysis: The Correlates of Loneliness in a Multivariate Context

Table 3 presents the estimated coefficients from the ordered probit regressions on the frequency of loneliness during the week, for the pooled and lagged samples, as well as for the consecutive waves that are least affected by attrition. Table 4 records the marginal effects from the pooled regressions, which identify how the probability of being in a particular loneliness category differs by individual or household characteristic.

Race differences in loneliness reports are present across all the regressions, with the gap most pronounced between older Africans and older whites. Without controlling for any differences in individual and household characteristics (regression I), older African adults are 14% more likely than older white adults to report feeling lonely at least sometimes during the week, and 3.5% more likely to report being always lonely.

These differences become more pronounced after recognising variation by race in living arrangements (regressions II and III). This signals that were more older Africans to live without others, the race gap in loneliness reports would be even larger. Adding the remaining characteristics of the pooled sample (regression IV) reduces the race gap, indicating that overall, the additional demographic and socio-economic covariates are associated with more loneliness among older African adults.

The difference between the loneliness reports of older whites and older Africans remains robust in the model that includes measures of loneliness in the previous wave and when the sample is restricted to only waves 2 and 3, or waves 4 and 5. Across most of the regressions, older Coloured adults also report significantly more loneliness than older white adults. However pairwise comparisons of coefficients show that loneliness among older adults is consistently higher for Africans than Coloureds.

The regression analysis affirms further that the living arrangements of older adults are significant correlates of loneliness. Older adults who live alone report feeling lonely more

Table 3 Correlates of loneliness among older adults (ordered probit regressions)

	I	II	III	IV	V	VI (waves 2+3)	VII (waves 4+5)
Loneliness in t-1:							
- A little					0.037 (0.051)		
- Moderate					0.226** (0.090)		
- Always					0.262** (0.120)		
African	0.365*** (0.065)	0.469*** (0.069)	0.408*** (0.075)	0.327*** (0.091)	0.277** (0.124)	0.537*** (0.158)	0.263* (0.136)
Coloured	0.252*** (0.087)	0.361*** (0.089)	0.296*** (0.093)	0.222** (0.096)	0.091 (0.128)	0.171 (0.167)	0.252* (0.142)
Indian	0.204 (0.165)	0.270 (0.167_	0.238 (0.165)	0.233 (0.165)	0.069 (0.230)	0.340 (0.290)	0.049 (0.215)
Lives alone		0.520*** (0.066)	--	--	--	--	--
Young child ≥ 1			-0.100*** (0.039)	-0.131*** (0.041)	-0.149*** (0.053)	-0.060 (0.073)	-0.221*** (0.062)
Older child ≥ 1			-0.092** (0.038)	-0.120*** (0.040)	-0.131*** (0.050)	-0.285*** (0.067)	-0.051 (0.061)
Working-age adults ≥ 1			-0.126** (0.055)	-0.103* (0.058)	-0.114 (0.073)	-0.120 (0.098)	-0.118 (0.082)
Older adults > 1			-0.399*** (0.044)	-0.173*** (0.054)	-0.267*** (0.069)	-0.070 (0.094)	-0.335*** (0.080)
Female				0.043 (0.048)	0.053 (0.060)	0.073 (0.072)	0.068 (0.074)
Age				0.004 (0.003)	0.002 (0.004)	0.003 (0.005)	0.005 (0.004)
Years of schooling				0.003 (0.006)	0.002 (0.007)	0.001 (0.009)	0.010 (0.009)
Previously married				0.325*** (0.057)	0.261*** (0.072)	0.347*** (0.094)	0.231*** (0.085)
Never married				0.224*** (0.065)	0.187** (0.082)	0.155 (0.109)	0.218** (0.096)
Health condition				0.086** (0.041)	0.100** (0.051)	0.092 (0.068)	0.075 (0.060)
Religion is important				-0.201** (0.088)	-0.229** (0.117)	-0.090 (0.123)	-0.372*** (0.135)
Rural				-0.076* (0.044)	-0.088 (0.054)	-0.112 (0.076)	-0.064 (0.063)
Richest households (subjective)				0.097 (0.073)	0.095 (0.093)	0.189* (0.108)	0.013 (0.119)
Average (middle) households				-0.174*** (0.044)	-0.209*** (0.053)	-0.254*** (0.074)	-0.157** (0.063)
Ln (per capita household income)				-0.039 (0.037)	-0.036 (0.052)	-0.037 (0.071)	-0.042 (0.048)
Richest asset tercile				-0.170*** (0.064)	-0.131* (0.080)	-0.144 (0.100)	-0.113 (0.093)

Table 3 (continued)

	I	II	III	IV	V	VI (waves 2+3)	VII (waves 4+5)
Middle tercile				-0.054 (0.044)	-0.066 (0.055)	-0.091 (0.073)	-0.024 (0.070)
F statistic	8.70	16.11	16.50	14.68	9.24	7.10	8.09

Source: NIDS waves 1–5 (2008–2018)

Notes: An older adult is older than 59 years. The data are weighted to represent population estimates. Standard errors are in parentheses and are clustered at the individual level. A young child is aged 6 years or younger, and an older child is 7 to 14 years. All regressions control for wave fixed effects. The omitted categories are older white adults; married; the lowest subjective assessment of household economic status; the lowest asset tercile. For regression V, the omitted category in t-1 is never lonely. *** Significant at the 99% level; ** Significant at the 95% level; * Significant at the 10% level

often than those who live with others (regression II), although not all coresident household members appear equally protective of loneliness (regressions III – VII).

Consistent with quantitative studies from developed countries (e.g. Barjaková et al., 2023), living with another older adult is associated with significantly lower loneliness reports. Most older adults who live with another older adult are married, but approximately 12% are not. In the pooled regressions, without controls for marital status (regression III), older adults who live with another older adult are 15% less likely to report at least some loneliness in the previous week; and this falls to 6% when marital status is also modelled (regression IV). This suggests that older adults provide protection against loneliness even if they are not the marital partner.

Living with younger (<7 years) and older (7–14 years) children is also negatively correlated with loneliness reports, and this relationship is significant in almost all the models. However, although the relationship between loneliness and living with at least one working-age adult is negative, it is not significant once marital status, and other socio-economic indicators are also modelled.

In contrast to the descriptive analysis, gender is no longer a significant correlate of loneliness in the multivariate context, a finding which is documented also in studies from developed countries (De Jong-Gierveld et al., 2012). However, loneliness reports remain significantly higher among older adults who report a major health condition, and significantly lower among those who identify religion as very important in their lives (who are respectively 3% more likely, and 7% less likely, to report being always lonely in regression IV).

There is some evidence of a relationship between socio-economic status and loneliness across the regression models. In comparison to older adults who assess the economic status of their household as below average, those who assess their economic status as average report significantly fewer episodes of loneliness. The accumulation of assets is also negatively correlated with loneliness reports. However, the relationship is not significant when the sample is restricted to waves where non-random attrition is less of a concern (regressions VI and VII). Moreover, there is no relationship between income and loneliness, and in contrast to the bivariate analysis, living in a rural area, which partly proxies for lower socio-economic status, is a negative (but mostly insignificant) correlate of loneliness reports.

The positive and significant relationship between loneliness in consecutive waves (regression IV) points to the persistence of loneliness over time. But it is also possible

Table 4 Marginal effects of loneliness after ordered probit regressions of pooled cross-sections

	Never/rarely lonely	A little lonely	Moderate lonely	Often/al- ways lonely
Regression I				
African	-0.139***	0.061***	0.044***	0.035***
Coloured	-0.096***	0.042***	0.030***	0.024***
Indian	-0.078	0.034	0.027	0.019
Regression II				
African	-0.176***	0.078***	0.055***	0.043***
Coloured	-0.135***	0.060***	0.042***	0.033***
Indian	-0.101	0.045	0.031	0.025
Lives alone	-0.195***	0.087***	0.061***	0.047***
Regression III				
African	-0.156***	0.066***	0.050***	0.040***
Coloured	-0.114***	0.048***	0.037***	0.029***
Indian	-0.091	0.039	0.029	0.023
Young child ≥ 1	0.038***	-0.016***	-0.012***	-0.010***
Older child ≥ 1	0.035**	-0.015**	-0.011**	-0.009**
Working-age adults ≥ 1	0.048**	-0.020**	-0.015**	-0.012**
Older adults > 1	0.153***	-0.065***	-0.049***	-0.039***
Regression IV				
African	-0.115***	0.059***	0.034***	0.022***
Coloured	-0.078**	0.040**	0.023**	0.015**
Indian	-0.082	0.042	0.024	0.016
Young child ≥ 1	0.046***	-0.024***	-0.014***	-0.009***
Older child ≥ 1	0.042***	-0.022***	-0.012***	-0.008***
Working-age adults ≥ 1	0.036*	-0.019*	-0.011*	0.007*
Older adults > 1	0.061***	-0.031***	-0.018***	-0.012***
Female	-0.015	0.008	0.004	0.003
Age	-0.002*	0.001	0.001*	0.0003**
Years of schooling	-0.001	0.001	0.0003	0.0002
Previously married	-0.114***	0.059***	0.034***	0.022***
Never married	-0.079***	0.041***	0.023***	0.015***
Health condition	-0.030**	0.015**	0.009**	0.006**
Religion is important	0.071**	-0.036**	-0.021**	-0.013**
Rural	0.027*	-0.014*	-0.008*	-0.005
Richest households (subjective)	-0.034	0.018	0.010	0.006
Average (middle) households	0.061***	-0.031***	-0.018***	-0.012***
Ln (per capita hhold income)	0.014	-0.007	-0.004	-0.003
Richest asset tercile	0.060***	-0.031***	-0.018**	-0.011**
Middle asset tercile	0.019	-0.010	-0.006	-0.004

Source: NIDS waves 1–5 (2008–2018)

Notes: An older adult is older than 59 years. The data are weighted to represent population estimates. A young child is aged 6 years or younger, and an older child is 7 to 14 years. *** Significant at the 99% level; ** Significant at the 95% level; * Significant at the 10% level

that the significance derives from “anchoring” among older adults, where different people anchor their responses at different points on the loneliness scale (Winkelmann & Winkelmann, 1998). This offers some control for unmeasured characteristics that influence the propensity to view social relations as deficient. However, there remain characteristics that cannot be adequately modelled, including cultural norms that differ by race and that may influence perceptions of loneliness.

6 Discussion

Existing quantitative research on the loneliness of older adults in South Africa is very limited. Earlier work found that older white adults (Ntozini & Abdullahi, 2021), or older Indian adults (Phaswana-Mafuya & Peltzer, 2017), were the most affected by loneliness. In contrast, the national longitudinal data analysed in this study show consistently that the frequency of loneliness is highest among older African adults, and lowest among older white adults. These findings are consistent with other quantitative research which identifies a strong relationship between loneliness and depression (Banerjee et al., 2023), and which has estimated significantly more vulnerability to depression among Africans than other groups in South Africa (e.g. Williams et al., 2007; Ardington & Case, 2010; Tomita & Burns, 2013; Burger et al., 2017; Harriman et al., 2021).

Race differences in the loneliness of older adults are evident and significant in simple bivariate analysis, and although reduced, they persist in multivariate analysis which controls for considerable race differences in how adults grow old in South Africa. Two of the most marked differences in the circumstances of older adults are in their economic status and their living arrangements, where both sets of covariates are correlated with loneliness.

Older whites on average have acquired more years of education over their lifetime, and they live in much better resourced households. They are also far more likely to be married and living with one other older adult, or to be living alone in the absence of a partner. These living arrangements partly reflect the conjugal system of household formation and greater economic independence among the white population, who can afford to live alone after the death of a partner, as well as greater access to institutional options for older people.

Older Africans, in contrast, are considerably less likely to be currently married and are more likely to live with children and working-age adults. Extended households derive partly from the historical influence of the agnatic tradition, whereupon marriage, a wife would be absorbed into the husband’s homestead or household (Russell, 2003). Over time, these kinship systems have been reinforced by difficult economic circumstances which have encouraged family members to co-reside and share resources and costs as a livelihood strategy (Ross, 1996; Edmonds et al., 2005; Posel & Hall, 2021).

This study finds that access to resources protects against the loneliness of older adults, although the relationship is not significant in all the models estimated. However, the relationship between living with others and loneliness is consistently significant across the analysis. Older adults who live alone are far more likely to experience loneliness at least sometimes during the week, while living with children and other older adults is negatively correlated with loneliness. Many studies of South Africa have highlighted the contribution of older adults, and particularly older women, to the care and support of children (e.g. Duflo, 2003; Schatz, 2007; Ardington et al., 2009; Bohman et al., 2009; Posel & Hatch, 2018). But

the possibility that children help to protect against the loneliness of older adults is not often recognised.

Race differences in the prevalence of loneliness among older adults highlight the continued salience of race as a socio-economic identifier in South African society. The finding that loneliness gaps persist in multivariate analysis also suggests that there are other factors that are correlated with both race and loneliness, and given data restrictions, these are not adequately accounted for in the regression analysis.

One set of factors that may be salient are cultural or ethnic differences that affect how social relations are evaluated by older adults. Earlier quantitative work which investigated loneliness among older African adults found that while the “presence of younger generations might provide some company to the elderly, ... they still complain of loneliness” (Makiwane & Kwizera, 2006: 310). The authors speculate that this derives at least in part from the unmet expectations of older adults as traditional ways of life become eroded (Makiwane & Kwizera, 2006: 308–309).

This argument is echoed in qualitative research on loneliness among older African adults in South Africa. For example, in their study of 16 older adults living in a township in the major metropolitan region in the Western Cape, Chigali et al. (2002: 22–23) found that “(m)ost of the participants who stayed with their children and grandchildren complained of being lonely”, with one respondent remarking that “(o)ur children do not respect us as it used to be in the olden days” (Chigali et al., 2002: 24). Ethnographic research by Bohman et al. (2009) similarly describes examples of older African adults who fear that their children or grandchildren will not fulfil their caring obligations in the coming years and who report that respect for the aged is waning.

If African cultures are more “collectivist” than the “individualist” culture of whites (Eaton & Louw, 2000; Adams et al., 2012; Van Zyl et al., 2018), then it is possible that older Africans have higher expectations of social interactions with their family members. This increases the likelihood that their expectations and reality diverge, even if they are less lonely than they would have been, were they to be living alone. More research is needed to interrogate this suggestion and to explore further why the frequency of loneliness among older adults in South Africa varies significantly by race. For example, future studies could probe race differences in the correlates of loneliness by decomposing race gaps into the contribution from differences in characteristics and differences in the influence of these characteristics (which may reflect the role of culture and norms in affecting experiences of loneliness).

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