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A profile of social isolation and the influence of demographics in older persons living in residential care, Durban, South Africa

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ABSTRACT

Introduction: Residential care settings have shown high social isolation rates with incumbent risks necessitating measurement to formulate health promotion policies.

Objective: To measure social isolation levels in older persons living in a lower socio-economic residential care setting in South Africa.

Method: A cross sectional survey with older persons from four inner city residential care facilities. A researcher-administered questionnaire was developed based on the Working Paper No.66, Oxford Poverty and Human Development Initiative. Data were analysed to describe social isolation and assess the influence of demographics.

Results: The response rate was 72.14% (n = 277) and representative of the residential care population for age and gender. Nearly half of the respondents (47.3%) met criteria for social isolation in terms of social network support and density and almost 20% for perceived isolation through decreased levels of friendship.

Conclusion: Although residential care does not prevent social isolation, the residents in the setting may provide a buffering in the provision of some social support.

1. Introduction and background

Globally, older persons (≥ 60 years) as a population group are projected to reach two billion by 2050 (WHO, 2018). The ageing process requires physical and psychosocial adjustments and adaptation and for some older persons, relocation to residential care facilities (Gilbert, Amella, Edlund & Nemeth, 2015). Social isolation rates vary across different settings, but have been shown to be high in residential care settings (Franck, Molyneux & Parkinson, 2016). Worldwide questions are asked if the nature and structure of residential care living is the answer to socially informed practises for older person care (Hickey, 2014; Baldwin, Chenoweth & de la Rama, 2015; Button, Moore & Seekings, 2018). Particularly in Africa, where the traditional role of the family is breaking down, modes of caring for older persons are topical amongst scholars and practitioners (Aboderin & Hoffman, 2015; Aboh & Ncama, 2018; Kpessa-Whyte, 2018). In situations that require older persons to relocate from varied cultural, geographical and often lower resourced living arrangements (Aboderin & Hoffman, 2015; Button, et al., 2018; Strydom, 2005; van Biljon & Roos, 2015; WHO, 2012) to

residential care living, it is to settings predominantly framed within western models (Aboderin & Hoffman, 2015). There are current debates in South Africa about the suitability of western models of residential care living and the need to shift to a model underpinned by an African philosophy such as “Ubuntu”. “Ubuntu” counters social isolation and puts emphasis on visibility, self-efficacy and kinship (Du Toit, Böning & van der Merwe, 2014), attaching a high value to community (Gade, 2012).

Ageing increases older persons’ vulnerability to social isolation with reported wide variances in its prevalence; however concern is expressed for higher risks and prevalence in residential care settings where estimates have reached 56% (Franck et al., 2016). In addition, social isolation is associated with increased mortality (Steptoe, Shankar, Demakakos & Wardle, 2013; Elovainio et al., 2017). When older persons relocate for health, social or financial reasons, often separating from primary networks (Aboderin & Hoffman, 2015; Chipps & Jarvis, 2016), adaptation to residential care can take up to 18 months (Thorson & Davis, 2000), and may require adjusting to a different community group and support structures (Lang, Rieckmann & Baltes, 2002; Finlay &

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Kobayashi, 2018). The first year of residential living has been associated with decreased mental well-being (Chipps & Jarvis, 2016; Drageset, Espenhaug & Kirkevold, 2012).

Though age and gender (Cornwell & Waite, 2009; Steptoe et al., 2013) are inconsistently associated with social isolation, living alone, having a small network with decreased contact (Dahlberg, Andersson, McKee & Lennartsson, 2015), widowhood (Dahlberg et al., 2015; Roos & Klopper, 2010), lower levels of education (Steptoe et al., 2013), financial problems (Zavaleta, Samuel & Mills, 2014), and life transitions such as retirement (Yu, Mccammon, Ellison, & Langa, 2016) have strong reported associations with social isolation. In addition, several physical and mental health factors have been associated with social isolation, such as chronic physical illness (Cornwell & Waite, 2009), mobility challenges (Dahlberg et al., 2015) and depression (Holwerda et al., 2016). The health risks of social isolation have been shown as equal to those of smoking and surpass those of obesity and physical inactivity (Holt-Lunstad, Smith & Layton, 2010).

Social isolation and loneliness share the same predictors (Finlay & Kobayashi, 2018; Steptoe et al., 2013), and also overlap as to how they are defined. Some authors draw clear conceptual divisions between the two constructs (de Jong Gierveld, Van Tilburg & Dykstra, 2016; Finlay & Kobayashi, 2018; Masi, Chen, Hawkey & Cacioppo, 2011; Steptoe et al., 2013); while others subsume loneliness as a construct in social isolation (Elsadr, Noureddine & Kelley, 2009; Zavaleta et al., 2014). Social isolation differs from “being alone”, which may involve a separate positive self-removal by choice (Warren, 1993). Working Paper No. 66 of the Oxford Poverty and Human Development Initiative (OPHI), an economic research centre, defines social isolation as “inadequate quality and quantity of social relations with other people at the different levels where human interaction takes place (individual, group, community and the larger social environment)” (Zavaleta et al., 2014:5). The OPHI subdivides social isolation into the two components of internal and external social isolation (Zavaleta et al., 2014), locating loneliness as part of internal social isolation. Despite adopting and adapting the questions from the OPHI, the authors of this study located loneliness as a possible outcome of social isolation.

The World Health Organization’s Study on global AGEing and adult health (SAGE) included a report on loneliness in older persons in South Africa (Phaswana-Mafuya & Peltzer, 2017), but limited research has been done on the social isolation of older persons living in residential care in South Africa. This further compounds the paucity of studies on loneliness and social isolation in lower middle-income countries. This study provides a profile for older persons in residential care in a semi-urban setting in Durban, South Africa, rather than providing predictors of social isolation. The information holds significance in its contribution to literature on social isolation in older persons (≥ 60 yrs.) in African countries and in particular the literature on older persons living independently in residential care. Further the information holds value for both programme planners targeting for example, social isolation, and policy makers in the South African Departments of Health and Social Development to strategise for the changing demographic profiles of an increasing older person population group (Stats SA, 2018; Solanki, Kelly, Cornell, Davlaud & Geffen, 2019). The study is timely in South Africa in light of current reconsideration of the nursing curriculum, where a gap exists concerning the promotion of mental health in cognitively intact older persons.

2. Method

2.1. Research design

A cross-sectional survey was conducted using a researcher-administered questionnaire to measure the constructs of social isolation.

2.2. Respondents’ characteristics

The study population was independent older persons (≥ 60 years), males and females, of lower financial resources, residing in residential care facilities of the select non-profit organisation (NPO) in Durban, South Africa. Living independently was defined by the NPO as the residents’ ability to live alone without requiring assistance with basic activities of daily living (bathing, dressing, feeding, and toileting or meal preparation, transport, communication, entertainment, finances and travelling).

2.3. Research setting

The study was conducted in a major non-government organisation responsible for providing non-private residential care facilities for older persons across the socio-economic spectrum in KwaZulu-Natal, South Africa. The organisation has several long-term residential care facilities, catering for 1900 residents with different levels of independence, ranging from independent living to frail supported care. The setting had recently adopted the resident driven Eden Alternative as a philosophy of care, which allows for choice in interactions with animals, plants and children. Studies have shown that the Eden Alternative allows for a feeling of being cared for (O’Rourke, Collins & Sidani, 2018).

2.4. Sampling procedures

The NPO was purposively selected from 60 facilities in the city, as it was the major NPO providing non-private residential care facilities to older persons in the province. Four inner city independent living long-term residential care facilities that housed 828 residents (01 August 2017) were purposively selected within the select NPO, based on factors of similar geographical location, income and independence levels, excluding facilities accommodating frail care exclusively, outside the inner-city or requiring a minimum income of greater than ZAR 3000 (US \$179.33). Residents were included if they were 60 years and older, classified by the NPO as fit / living independently and had no major sensory deficits (the information was to feed into a digital intervention). A minimum required sample size of 264 was calculated using 95% confidence index (CI), and a 5% margin of error, and an estimated prevalence rate of 50% for loneliness. Oversampling resulted in a sample of 384 residents. The sample was selected using stratified simple random sampling based on a computer-generated list of residents and a proportional quota per residence, based on the ratio of male: female residents (30:70).

2.5. Research instrument

The researcher-administered questionnaire was based (with permission for adjustments) on the Oxford Poverty and Human Development Initiative (OPHI) (Working Paper No. 66) (Zavaleta et al. 2014). The questionnaire, which was translated and back translated into isi-Zulu, the most widely spoken language in the province, included demographics (based on SAGE wave 1) (WHO, 2006), and the OPHI indicators to measure social isolation.

External social isolation was measured through social network density, social support and network contact. Social network support and density was measured using the Lubben Social Network Scale (LSNS-6) which was designed to screen for social isolation in older persons in the PRO-AGE trial study. The LSNS-6 has well established validity (self-administered LSNS-6 and interviewer’s LSNS-6, Cohen’s Kappa = 0.72 [CI95: 0.36–1.0]; and reliability (total scale internal consistency (IC 0.83, family IC 0.80-0.82, friends IC: 0.80 -0.82) (Lubben et al., 2006). Social support, in particular reciprocity, was measured using the Reciprocity of Social Support Scale (RSSS). The RSSS has a strong positive association with the Relationship Community Group (RCG) trust scale, a strong positive association with the RCG Sense of Belonging Scale, and a

weak positive association with the LSNS-6 (IC 0.90-0.93) (Pope et al., 2013:5). Network contact was measured through three single item questions about frequency of contact, presence of a confidant and involvement in community activities (Zavaleta et al., 2014) (Table 2).

Internal social isolation was measured through level of satisfaction, sense of belonging, trust and self-efficacy. The Level of Satisfaction Scale was adapted from the OPHI (2014) and sense of belongingness was measured through a single question to assess the sense of belonging in the residence. Trust was measured through four trust questions, three questions using a Likert scale. These included the World Values Survey single item question measuring generalised trust (Zavaleta et al., 2014) and three questions, with permission from the SAGE study (WHO, 2006), which were summed to create a trust score (Particularised Trust). Efficacy was measured using the General Self-Efficacy Scale (GSES) in terms of personal agency. The GSES has concurrent validity with 12 scales and an IC 0.82-0.93 (Luszczynska, Gutiérrez-Doña & Schwarzer, 2005). The six item Friendship Scale with three positive and three negatively worded questions, a generic measure of perceived social isolation in older persons over four weeks, was added to provide broad coverage of perceived social isolation (Hawthorne, 2006).

2.6. Ethical considerations

The study received ethics approval from the study university (HSS/1169/016D) and gatekeeper permission from the residential facility's

board. Informed written consent was obtained from the respondents. The reflective nature of the questions held the possibility of evoking an emotionally painful response, hence an additional consent was obtained for counselling, should the respondent desire, at no cost to the respondent. The respondents were not remunerated financially for their participation, but were given a refreshment. Confidentiality was maintained and no names were placed on the questionnaires.

3. Results

3.1. Recruitment

In preparation for data collection, four multilingual research assistants (Masters Graduates in Nursing or Social Science) with formal experience of working with older persons, were trained in the administration of the questionnaire. A pilot study (n = 5) was conducted after which an A4 laminated window card for response choices was added. Information regarding the survey was advertised in the residences three days before the survey and the respondents were provided with verbal and written information about the study. The questionnaire was administered in the respondents' flats, by the researcher/research assistants in English and isiZulu (to the few isiZulu speaking respondents) over a period of three weeks in August 2017. The time spent with each respondent varied from 35 min to two hours with an opportunity for further referral to a social worker, in the event of emotional pain arising

Table 1
Respondents' demographics and living arrangements by gender differences (n = 277)

Variable of interest	Total respondents (n = 277)	Males n = 84(30.5%)	Females n = 193(69.5%)	Statistic	p-value
Age (mean, sd)	74.75 ± 6.97	74.18 ± 7.20	75.01 ± 6.88	U = -1.05	p = .294
Age group (n, %)				X ² = 0.28	p = .598
Younger old (60-79)	212(76.5)	66(78.6)	146(75.6)		
Older old (80 +)	65(23.5)	18(21.4)	47(24.4)		
Home language (n, %)				X ² = 1.47	p = .225
English	244(88.1)	77(91.7)	167(86.5)		
Other	33(11.9)	7(8.3)	26(13.5)		
Highest educational level (n, %)				X ² = 6.40	p = .011*
Completed 1° school and lower	144(52)	34(40.5)	110(57)		
Completed 2° and 3° education	133(48)	50(59.5)	83(43.0)		
Religion (n, %)				X ² = 13.9	p = <.001*
None	9(3.2)	7(8.3)	2(1.0)		
Christian	200(72.2)	64(76.2)	136(70.5)		
Non-Christian (Hinduism & Islam)	68(24.5)	13(15.5)	55(28.5)		
Marital status (n, %)				X ² = 28.14	p = <.001*
Never married	45(16.2)	13(15.5)	32(16.6)		
Separated or divorced	65(23.5)	29(34.5)	36(18.7)		
Currently married	42(15.2)	22(41.7)	20(10.4)		
Widowed	125(45.1)	20(23.8)	105(54.4)		
Yrs. Separated, divorced or widowed (mean sd) (Males n = 49; Females n = 141)	21.97 ± 13.07	19.16 ± 12.99	22.95 ± 12.99	U = -1.96	p = .050*
Children (n, %)/No children	62(22.4)	16(19.0)	46(23.8)	X ² = 0.77	p = .380
# Living children (mean, sd)	2.15(1.72)	2.07(1.73)	2.19(1.73)	U = -0.788	p = .431
Grandchildren (n, %)/No grandchildren	83(30.0)	29(34.5)	54(28.0)	X ² = 1.20	p = .274
# Living grand /great grandchildren (median, IQR)	4.34 (3-6)	3.25(2-5)	4.81 (4-7)	U = -2.03	p = .043*
Primary financial source (n, %)				X ² = 0.08	p = .776
Private source	59(21.3)	17(20.2)	42(21.8)		
State pension	218(78.7)	67(79.8)	151(78.2)		
Time in current residence (n, %)				X ² = 0.29	p = .589
In residence 1-18 months	99(35.7)	32(38.1)	67(34.7)		
In residence > 18 months	178(64.3)	52(61.9)	126(65.3)		
Area living most adulthood (n, %)				X ² = 0.24	p = .622
Same area / city	213(76.9)	63(75.0)	150(77.7)		
Another area	64(23.1)	21(25.0)	43(22.3)		
Area living prior residence (n, %)				X ² = 0.54	p = .463
Same area	228(82.3)	67(79.8)	161(83.4)		
Different area	49(17.7)	17(20.2)	32(16.6)		
Accommodations prior to residence (n, %)				X ² = 7.85	p = .049*
Another residence	43(15.5)	12(14.35)	31(16.1)		
With family	115(41.5)	26(45.2)	89(62.2)		
Own residence with partner	67(24.2)	24(28.6)	43(22.3)		
Alone in own home	52(18.8)	22(26.2)	30(15.5)		

Note: Differences in demographic variables and gender were tested using Chi-square tests (or Fisher Exact Tests where appropriate), or non-parametric tests. Significance was set as p < .05*.

from the reflective nature of the questionnaire. The researcher checked the forms daily and requested the data collectors to return to the respondents for any missed items.

3.2. Data analysis

Data were entered into IBM SPSS version 25, recoded as required and summary construct scores calculated. Demographic data were recoded as younger old (60–79 yrs.) or older old (≥ 80 yrs.) persons; time living in the residence as ≤ 18 months and ≥ 19 months (Thorson & Davis, 2000), education as pre-primary and lower and secondary and higher, and the areas where respondents resided most of their adult life and prior to relocation as area/city or other area (Table 1). In analysing external social isolation, total and subscale scores were summed, a LSNS-6 kin and non-kin LSNS-6, and a RSSS score for ability to provide support and ability to receive support were calculated (Lubben & Gironda, 2003; Lubben et al., 2006; Pope et al., 2013) (Table 2). Similarly for internal social isolation, summation of the three trust items created a trust score with a higher score denoting lower trust levels. Total level of satisfaction and self-efficacy scores were calculated (Table 3). The measures for sense of belonging were collapsed into the two variables of strong and weak. The three items in the Friendship Scale were reverse scored and summed (Hawthorne, 2006).

All scales were subject to reliability analysis using Cronbach's alpha for internal consistency where a calculated coefficient alpha of ≥ 0.70 was judged as sufficiently reliable and all scales showed good reliability (>0.70). Associations were tested between the demographic variables, and the constructs of social isolation using non-parametric tests (Mann-Whitney (*U*) and Kruskal-Wallis (*K*)] and Chi-square tests (X^2). The

increased mortality amongst older males (Stats SA, 2018) results in demographic differences, consequently the data were split by gender to allow for comparison.

3.3. Results of analysis

Response rate: The survey had a response rate of 72.14% ($n = 277$) respondents, which represented 33.45% of the total population ($n = 828$). Forty-three potential respondents declined to participate, 54 were not available, eight were physically ill or deaf, and two were under 60 years. The study sample was representative of the total residence's population for age groups and gender, and there were no missing data

Demographics: The mean age of the respondents was 74.75 ± 6.97 years, with most being between 60 and 79 years of age (younger old) ($n = 212$, 76.5%). Most of the respondents were female ($n = 193$, 69.5%), spoke English ($n = 244$, 88.1%), completed primary school as the highest level of education ($n = 144$, 52%) and widowed ($n = 125$, 45.1%) (Table 1).

There were significant gender differences in terms of respondent demographics. More female than male respondents had completed primary education or less (57% vs. 40.5%; $X^2 = 6.40$, $p = .011$) (Table 1). Christianity was practised by nearly three quarters of the respondents ($n = 200$, 72.2%), followed by Hinduism ($n = 51$, 18.4%) and Islam ($n = 17$, 6.1%). Nine (3.2%) respondents indicated no religion. There were more non-Christian females compared to male respondents (28.5% vs. 15.5%; $X^2 = 13.90$, $p < .001$) (Table 1). Most respondents were widowed ($n = 125$, 45.1%) with more widows ($n = 105$) than widowers ($n = 20$), accounting for just over half of the female respondents (54.4% vs. 23.8%; $X^2 = 28.14$, $p < .001$). Female respondents ($n = 141$) reported a

Table 2
External social isolation constructs ($n = 277$).

	Scale and scale items; Cronbach alpha (α)	Mean [CI95%] / n (%)
Social network support and density	LSNS-6 /30 ($\alpha = 0.84$) (m, CI95)	12.70 [11.26-13.49]
	Family LSNS /15 ($\alpha = 0.83$) (m, CI95)	6.39 [5.95-6.83]
	<i>How many relatives do you see or hear from at least once a month?</i>	2.81 [2.63-2.98]
	<i>How many relatives do you feel close to such that you could call on them for help?</i>	1.98 [1.81-2.15]
	<i>How many relatives do you feel at ease with that you could talk about private matters?</i>	1.61 [1.44-1.78]
	Friends LSNS /15 ($\alpha = 0.77$) (m, CI95)	6.31 [5.87-6.76]
	<i>How many of your friends do you see or hear from at least once a month?</i>	3.01 [2.83-3.20]
	<i>How many friends do you feel close to such that you could call on them for help?</i>	1.95 [1.77-2.13]
	<i>How many friends do you feel at ease with that you can talk about private matters?</i>	1.35 [1.18-1.52]
Social network contact	RSSS /50 ($\alpha = 0.89$) (m, CI95)	37.03 [36.01 – 38.05]
	How likely (1=Not at all, 5=Very likely) would you be there for one or more people in the residence or the community (Provide support)? /25 ($\alpha = 0.81$) (m, CI95)	18.76 [18.24 – 19.33]
	<i>To take a meal if they were sick</i>	3.84 [3.69 – 4.00]
	<i>To get through a difficult time emotionally</i>	3.82 [3.68 – 3.96]
	<i>To do something enjoyable with</i>	3.73 [3.59 – 3.86]
	<i>To share your own experiences and knowledge</i>	3.71 [3.57 – 3.86]
	<i>To provide spiritual support</i>	3.68 [3.53 – 3.84]
	How likely would one or more of the residents or the community be there for you (Receive support)? /25 ($\alpha = 0.85$) (m, CI95)	18.24 [17.67 – 18.81]
	<i>To bring you a meal if you were sick</i>	3.75 [3.61 – 3.90]
	<i>To get through a difficult time emotionally</i>	3.66 [3.52 – 3.80]
	<i>To share their experiences and knowledge</i>	3.64 [3.50 – 3.78]
<i>To do something enjoyable with</i>	3.62 [3.48 – 3.75]	
<i>To provide spiritual support</i>	3.57 [3.41 – 3.72]	
	Single items showing social network contact	
	<i>Do NOT have anyone with whom you can discuss intimate and personal matters (n, %)</i>	61 (22.0)
	<i>NEVER met f-2-f in last 1/52 with friends and relatives living outside residence (n, %)</i>	53 (19.1)
	<i>NOT involved in last 12/12 in cultural, social or community groups outside the residence (n, %)</i>	128 (46.2)

Key: CI: Confident Index; LSNS-6: Lubben Social Network Scale-6; RSSS: Reciprocity Social Support Scale.

Note: Items re-ordered from scale and placed in descending order.

Table 3

Internal social isolation constructs (n = 277).

Scale and scale items; Cronbach alpha (α)	Mean [95% CI] / n (%)
Level of satisfaction (1 = Don't know/ no answer; 5 = Very satisfied) /85 ($\alpha = 0.81$) (m, CI95)	69.88 [68.99–70.78]
In general how satisfied or dissatisfied are you with your... /5 (m, CI95)	
Spiritual, religious or philosophical beliefs	4.43 [4.33–4.53]
Dignity	4.42 [4.35–4.49]
Free choice and control over your life	4.39 [4.30–4.47]
Ability to help others	4.16 [4.04–4.27]
Local security level	4.37 [4.27–4.47]
Life overall	4.27 [4.18–4.37]
Family	4.25 [4.14–4.35]
Friends	4.23 [4.14–4.33]
Frequency of communication with family	4.19 [4.08–4.31]
Frequency of communication with friends	4.18 [4.07–4.28]
Accommodation in residence	4.15 [4.05–4.26]
Food	4.12 [4.01–4.23]
Residence generally	4.10 [3.98–4.22]
Being retired	3.88 [3.77–3.99]
Education	3.83 [3.72–3.95]
Physical health	3.70 [3.58–3.81]
Income	3.20 [3.08–3.33]
Sense of belonging: How strongly do you feel you belong to the residence? (n, %)	52(18.8)
Weak sense of belonging (n,%)	
Generalised Trust: Generally speaking would you say that you can't be too careful in dealing with people? (n, %)	177(63.9)
Trust score (Particularised Trust) (/15) (15 = High mistrust) (1 = Great extent; 5 = To a very small extent) /5, ($\alpha = 0.67$) (m, CI95)	10.74 [10.43–11.06]
How much do you trust different groups of people? (m, CI95)	
People with whom you live	3.04 [2.89–3.19]
People in your neighbourhood.	3.21 [3.05–3.36]
Strangers	4.50 [4.41–4.60]
Self-efficacy (1 = Not at all.; 4 = Exactly true) /40 ($\alpha = 0.87$) (m, CI95)	31.14 [30.49–31.79]
I can solve most problems if I invest the necessary effort	3.24 [3.15–3.33]
I can remain calm when facing difficulties because I can rely on my coping abilities	3.23 [3.13–3.32]
I can usually handle whatever comes my way	3.22 [3.13–3.32]
If I am in trouble, I can usually think of a solution	3.21 [3.12–3.30]
It is easy for me to stick to my aims and accomplish my goals	3.17 [3.08–3.25]
I can always manage to solve difficult problems if I try hard enough	3.16 [3.07–3.24]
I am confident that I could deal efficiently with unexpected events	3.16 [3.06–3.26]
When I am confronted with a problem, I can usually find several solutions	3.11 [3.02–3.21]
Thanks to my resourcefulness I know how to handle unforeseen situations	3.07 [2.97–3.17]
If someone opposes me I can find means and ways to get what I want	2.57 [2.45–2.70]
Levels of social isolation (Friendship Scale) (0 = Not at all; 4 = Almost always) /24 ($\alpha = 0.76$) (m, CI95) *Reverse scored.	18.57 [18.07–19.07]
Socially isolated (≤ 15) (n, %)	52 (18.8)
Choose what best describes you and other people in the past 4/52 /4 (m, CI95)	
*I (did not feel) felt isolated from other people	3.31 [3.20–3.42]
*I (did not feel) felt alone and friendless	3.27 [3.15–3.41]
*When with other people, I (did not feel) felt separate from them	3.27 [3.15–3.39]
It has been easy to relate to others	3.02 [2.91–3.14]
I found it easy to get in touch with others when I needed to	2.96 [2.84–3.08]
I had someone to share my feelings with	2.73 [2.59–2.87]

Note: Items re-ordered from scale and placed in descending order.

significantly longer period of being separated or widowed compared to male respondents ($n = 49$) ($m = 22.95 \pm 12.99$ yrs. vs. 19.16 ± 12.99 yrs.; $U = 1.96$, $p < .001$).

Similarities were seen in the economic status of the respondents and the duration of residency in the setting. Most respondents ($n = 218$,

78.7%) received a state pension as their primary source of income. The average reported duration of living in the residence was five and a half years (67.07 ± 65.68 months), with females reporting a longer time in the residence (females 72.30 ± 69.42 months, males 56.06 ± 54.67 months), though this was not significant. Prior to relocating, the majority had previously lived with their family ($n = 115$, 41.5%) (Table 1).

External Social Isolation

External social isolation was measured through social network density, social network support and social network contact (Table 2).

Social network support and density: The average LSNS-6 was 12.70/30 [CI95 11.26–13.49] (Table 2), indicating that nearly half ($n = 131$, 47.3%) of the respondents were socially isolated. The LSNS-6 Family score of 6.39/15 [CI95 5.95–6.83] was higher than the LSNS-6 Friendship score of 6.31/15 [CI95 5.87–6.76] (Table 2), indicating that 112 (40.4%) respondents had marginal family ties; and 127 (45.8%) respondents with marginal non-kin ties. As the level of intimacy in the ties decreased, so did the LSNS-6 scores for network density. Respondents relocating from previously living alone in their own home had the least dense family networks with less support (LSNS-6 family/15) ($m = 4.69 \pm 3.42$ vs. 6.06 ± 3.36 living in own home with a partner vs. 6.23 ± 3.32 living in another residence vs. 7.41 ± 3.94 living with family; $K = 16.24$, $p = .001$) (Table 4).

Social Network support (reciprocity): Of the 216 (78%) respondents who had a confidant (Table 2), 36.1% ($n = 78$) reported that they confided in their child/children, while 32.9% ($n = 71$) reported that they linked with a friend. To bring a meal by residents and for residents were rated the highest form of social support (RSSS) (Table 2). Respondents showed high levels of reciprocity in both the ability to provide ($m = 18.76/25$ [CI95 18.24–19.33]) and receive support ($m = 18.24/25$ [CI95 17.67–18.81]) (Table 2).

Social Network Contact: Most of the respondents ($n = 220$, 79.4%) had spent time with their family in the past two weeks, of whom 11.2% ($n = 31$) had daily contact. However, there were more frequent reports of social network contact with friends and face-to-face contact in the last week ($n = 224$, 80.9%). A fifth of the respondents ($n = 57$, 20.6%) had not spent time with family or friends in the past week, even though 45 (78.9%) of these respondents had lived in the area prior to relocating to the residence and 38 respondents (66.7%) had lived in the same area for most of their adulthood. In addition, it is noted that the female respondents had significantly more reported grandchildren than the male respondents ($m = 4.81$ vs. 3.25 ; $U = -2.03$, $p = .043$) (Table 1).

Significant differences in reported social network contact with respondents who did not have children or grandchildren had higher reports of not spending time with family (respondents with no children (22, 35.5%), vs. respondents with children (35, 16.3%); $X^2 = 10.88$, $p = .001$; and no grandchildren (27, 32.5%), vs. grandchildren (30, 15.5%); $X^2 = 10.36$, $p = .001$) (Table 4). Lastly, respondents who had previously lived alone in their own home reported spending less time with family (26 (50.0%) vs. respondents who previously lived with family 15 (13.0%) vs. respondents who lived with a partner in their own home 9 (13.4%) vs. respondents who lived in another residence 7(16.3%); $X^2 = 34.12$, $p < .001$) (Table 4). These differences were also reported for not meeting face-to-face in the past week with family and friends outside of the residence for respondents who had previously lived alone (22 (42.3%) living in own residence, vs. 8 (18.6%) other residential care facility, vs. 17 (14.8%) living with family, vs. 6 (9.0%) living in own residence with partner; $X^2 = 23.95$, $p < .001$) (Table 4).

Internal Social Isolation

Internal social isolation was measured through level of satisfaction, sense of belonging in the residence, trust, and self-efficacy levels (Tables 3 and 5).

Levels of satisfaction: The respondents' average level of satisfaction was 69.88/85 (CI95 68.99–70.78). Levels of satisfaction reported by respondents were significantly lower for satisfaction with income than all other items ($m = 3.2/5$ [CI95 3.08–3.33]) (Table 3). The highest satisfaction item reported by respondents was for satisfaction with

Table 4
Internal social isolation constructs (n = 277).

Variable	n	External social isolation (mean scale scores)						External social isolation (n, %)			
		LSNS-6 Total /30	LSNS-6 family /15	LSNS-6 friends /15	RSSS Total /50	RSSS Prov. /25	RSSSRec. /25	Never time family 2/52	Never time f2f kin/friend 1/52	No confidant	No Involve. outside res.
Mean		12.70	6.39	6.31	37.03	18.79	18.24	–	–	–	–
60–79 yrs.	212	13.06	6.64	6.42	37.50	19.05	18.45	37 (17.5)	31 (14.6)	37 (17.5)	90 (42.5)
80 + yrs.	65	11.55	5.58	5.97	*35.48	17.92	17.55	*20 (30.8)	***22 (33.8)	***24 (36.9)	*38 (58.5)
Male	84	11.90	5.82	6.08	35.23	*17.80	17.43	23 (27.4)	20 (23.8)	22 (26.2)	46 (54.8)
Female	193	13.05	6.64	6.41	37.81	19.22	18.60	34 (17.6)	33 (17.1)	39 (20.2)	82 (42.5)
English	244	12.81	6.45	6.36	36.93	18.76	18.17	48 (19.7)	48 (19.7)	56 (23.0)	115 (47.1)
Other language	33	11.91	5.94	5.97	37.76	18.97	18.79	9 (27.3)	5 (15.2)	5 (15.2)	13 (39.4)
1° and < 1° ed.	144	11.98	5.99	5.99	37.37	19.01	18.35	26 (18.1)	27 (18.8)	37 (25.7)	68 (47.2)
2° and 3° ed.	133	13.49	6.82	6.67	36.66	18.54	18.12	31 (23.3)	26 (19.5)	24 (18.0)	60 (45.1)
Christian	200	12.28	6.13	6.15	37.36	18.87	18.49	48 (24.0)	44 (22.0)	42 (21.0)	96 (48.0)
No religion	9	*9.67	*4.78	4.89	32.00	16.44	15.56	**4 (44.4)	**4 (44.4)	3 (33.3)	6 (66.7)
Non-Christian	68	14.35	7.37	6.99	36.74	18.87	17.87	5 (7.4)	5 (7.4)	16 (23.5)	26 (38.2)
Never married	45	12.13	5.84	6.29	36.18	18.58	17.60	13 (28.9)	8 (17.8)	14 (31.1)	18 (40.0)
Sep / Divorced	65	11.83	5.65	6.18	37.98	19.17	18.82	**20 (30.8)	19 (29.2)	10 (15.4)	32 (49.2)
Married	42	13.38	6.79	6.60	38.02	19.26	18.76	3 (7.1)	5 (11.9)	8 (19.0)	22 (52.4)
Widowed	125	13.14	6.84	6.30	36.50	18.50	18.00	21 (16.8)	21 (16.8)	29 (23.2)	56 (44.8)
Children	215	12.78	6.58	6.20	37.33	18.94	18.38	35 (16.3)	39 (18.1)	43 (20.0)	104 (48.4)
No children	62	12.44	5.74	6.69	36.00	18.24	17.76	**22 (35.5)	14 (22.6)	18 (29.0)	24 (38.7)
Grandchildren	194	12.87	6.72	6.15	37.40	19.04	18.36	30 (15.5)	28 (14.4)	39 (20.1)	95 (49.0)
No G/children	83	12.31	*5.61	6.70	36.17	18.19	17.98	**27 (32.5)	**25 (30.1)	22 (26.5)	33 (39.8)
Private finances	59	13.12	6.54	6.58	37.76	18.75	19.02	15 (25.4)	*17 (28.8)	11 (18.6)	26 (44.1)
State pension	218	12.59	6.35	6.24	36.83	18.80	18.03	42 (19.3)	36 (16.5)	50 (22.9)	102 (46.8)
1–18/12 in res.	99	14.16	7.22	6.94	37.38	18.88	18.51	10 (10.1)	14 (14.1)	23 (23.2)	49 (49.5)
≥19/12 in res.	178	**11.89	**5.93	*5.97	36.83	18.74	18.10	**47 (26.4)	39 (21.9)	38 (21.3)	79 (44.4)
Same area prior	228	12.46	6.25	6.21	36.85	18.68	18.16	45 (19.7)	43 (18.9)	51 (22.4)	103 (45.2)
Diff area prior	49	13.86	7.06	6.80	37.88	19.27	18.61	12 (24.5)	10 (20.4)	10 (20.4)	25 (51.0)
Prior other res.	43	12.84	6.23	6.60	37.28	18.95	18.33	7 (16.3)	8 (18.6)	10 (23.3)	24 (55.8)
Prior family	115	14.35	7.41	6.94	38.07	19.21	18.86	15 (13.0)	17 (14.8)	21 (18.3)	56 (48.7)
Private partner	67	11.85	6.06	5.79	36.46	18.04	18.42	9 (13.4)	6 (9.0)	14 (20.9)	27 (40.3)
Private alone	52	**10.06	**4.69	5.37	35.25	18.67	16.58	***26 (50.0)	***22(42.3)	16 (30.8)	21 (40.4)

Key: Diff: Different; Ed.: Education; G/children: Grandchildren; Eff: efficacy; f2f: face-to-face; LSNS-6: Lubben Social Network Scale-6; res. residence; Private = own residence;

Prov.: Provide support; Rec.: Receive support; Rel: Religion; RSSS: Reciprocity Social Support Scale; Sep: Separated; 1°: Primary; 2°: Secondary; 3°: Tertiary.

Note: Mean values are recorded for all scales; Categorical variables are recorded as n and %; Differences between external social isolation indicators and demographic variables were tested using Mann-Whitney U test (U), Kruskal Wallis test (K), Chi-square (X²) as indicated; p-value of significance set at p < .05*, p < .01**, p < .001***.

spiritual, religious and philosophical beliefs (m = 4.43/5 [CI95 4.33–4.53]), followed by satisfaction with dignity (m = 4.42/5 [CI95 4.35–4.49]), and free choice (m = 4.39/5 [CI95 4.30–4.47]) (Table 3).

Sense of belonging, trust, and self-efficacy: Nearly a fifth of respondents (n = 52, 18.8%) reported that they experienced a weak sense of belonging in the residence (Table 3). Almost two thirds of the respondents (n = 177, 63.9%) reported a low level of generalised trust, while the Trust score (Particularised Trust) (m = 10.74/15 [CI95 10.43–11.06]), showed high mistrust with significantly lower trust values for strangers (m = 4.50/5 [CI95 4.41–4.60]) and neighbours (m = 3.21/5 [CI95 3.05–3.36]) than family (Table 3). The respondents' average score for Self-efficacy was 31.14/40 [CI95 30.49–31.79], with the highest efficacy reported for the ability to solve most problems with an investment of effort (m = 3.24/4 [CI 95 3.15–3.33]) (Table 3). The item “If someone opposes me I can find means and ways to get what I want” was rated significantly lower (m = 2.57/4 [CI95 2.45–2.70]) than all other Self-efficacy items (Table 3).

Significant differences were found between female and male respondents in *Self-efficacy* (m = 30.60/40 ± 5.64 females vs. 32.37 ± 5.00 males; U = -2.66, p = .008), as well as respondents with primary and lower levels of education compared to those with secondary and tertiary education (m = 30.13/40 ± 5.54 vs. 32.23 ± 5.27; U = -3.02, p = .003) (Table 5).

In respondents who had relocated from living alone in private

accommodation to their current residence, compared to other forms of living arrangements, as well as respondents who had been residing in the residence for 19 months or longer, a significant difference was shown in the *trust scores*, (m = 11.83/15 ± 2.38 alone in private dwelling vs. 11.47 ± 2.2 in another residence vs. 10.30 ± 2.53 in private dwelling with partner vs. 10.24 ± 2.84 with family other than partner; K = 16.99, p = .001; m = 11.06/15 ± 2.67 ≥ 19 months vs. 10.18 ± 2.57 1–18/12; U = -2.41, p = .016) (Table 5). However respondents who had relocated from another residence showed a significantly *weaker sense of belonging* and a lower sense of *general trust* compared to other respondents. (weaker sense belonging n = 17(39.5%) other residence, vs. n = 19 (16.5%) with family other than partner, vs. n = 9(17.3%) alone in private dwelling, vs. n = 7(10.4%) private dwelling with partner; X² = 15.66, p = .001; *General trust* n = 36(83.7%) another residence, vs. n = 36(69.2%) alone in private dwelling, vs. n = 68(59.1%) with family other than partner, vs. 37(55.2%) private dwelling with partner; X² = 11.28, p = .010) (Table 5).

Perception of isolation through friendship levels: The respondents' average friendship score or perception of isolation (Friendship Scale) was 18.57/24 (18.07–19.07) with nearly a fifth (n = 52, 18.8%) meeting criteria for perceptions of being socially isolated (Table 3). The items “I (did not feel) felt isolated from other people” and “I (did not feel) felt alone and friendless” were rated significantly higher than all the other items (m = 3.31 [CI95 3.20–3.42] and m = 3.27 [CI95 3.15–3.41]) (Table 3). A

Table 5
Influence of demographics on internal social isolation constructs (n = 277).

Variable		Internal social isolation (mean scores)				Internal social isolation(n, %)	
		Level of Satis. /85	Trust score /15	Self Eff. /40	Friendship Scale /24	Weak sense of belonging	Lower general trust
Mean	n	69.88	10.74	31.14	18.57	–	–
60–79 yrs.	212	70.05	10.80	31.52	18.94	43 (20.3)	139 (65.6)
80 + yrs.	65	69.34	10.57	*29.89	**17.37	9 (13.8)	38 (58.5)
Male	84	68.87	10.39	32.37	18.31	15 (17.9)	50 (59.5)
Female	193	70.33	10.90	**30.60	18.68	37 (19.2)	126 (65.8)
English	244	*69.62	10.75	31.02	18.68	49 (20.1)	160 (65.6)
Other lang.	33	71.82	10.70	32.00	17.73	3 (9.1)	17 (51.5)
1° and < 1° ed.	144	69.17	10.97	**30.13	*18.12	27 (18.8)	97 (67.4)
2° and 3° ed.	133	70.66	10.50	32.23	19.06	25 (18.8)	80 (60.2)
Christian	200	69.84	10.72	31.57	18.70	43 (21.5)	128 (64.0)
No religion	9	65.67	11.33	32.33	14.56	2 (22.2)	6 (66.7)
Non-Christian	68	70.57	10.75	*29.71	18.74	7 (10.3)	43 (63.2)
Never married	45	70.18	11.22	30.04	17.87	8 (17.8)	32 (71.1)
Sep / Divorced	65	69.42	10.91	32.20	17.83	12 (18.5)	41 (63.1)
Married	42	68.81	10.43	30.67	19.21	8 (19.0)	28 (66.7)
Widowed	125	70.38	10.59	31.14	18.99	24 (19.2)	76 (60.8)
Children	215	69.74	10.59	31.26	18.67	39 (18.1)	132 (61.4)
No children	62	70.39	11.27	30.71	18.24	13 (21.0)	45 (72.6)
Grandchildren	194	69.77	10.60	31.19	18.61	34 (17.5)	119 (61.3)
No G/children	83	70.16	11.07	31.01	18.47	18 (21.7)	58 (69.9)
Private finance	59	71.27	10.68	31.90	18.71	11 (18.6)	37 (62.7)
State finance	218	69.51	10.76	30.93	18.53	41 (18.8)	140 (64.2)
1–18/12 in res.	99	69.67	10.18	31.26	18.59	**28 (28.3)	65 (65.7)
≥19/12 in res.	178	70.01	*11.06	31.07	18.56	24 (13.5)	112 (62.9)
Same area prior	228	69.82	10.83	30.92	18.62	44 (19.3)	151 (66.2)
Diff area prior	49	70.16	10.33	32.16	18.35	8 (16.3)	26 (53.1)
Prior other res.	43	68.12	11.47	29.44	18.09	*17 (39.5)	*36 (83.7)
Prior family	115	71.04	10.24	31.51	18.60	19 (16.5)	68 (59.1)
Private partner	67	68.67	10.30	31.04	19.34	7 (10.4)	37 (55.2)
Private alone	52	70.35	***11.83	31.83	17.90	9 (17.3)	36 (69.2)

Key: Diff: Different; Ed.: Education; G/children: Grandchildren; Eff: efficacy; res. residence; Rel: Religion; Satis: Satisfaction; Sep: Separated; 1°: Primary; 2°: Secondary; 3°: Tertiary.

Note: Mean values are recorded for all scales; Categorical variables are recorded as n and %; Differences between internal social isolation indicators and demographic variables were tested using Mann-Whitney *U* test (*U*), Kruskal Wallis test (*K*), Chi-square (X^2) as indicated; p-value of significance set at $p < .05^*$, $p < .01^{**}$, $p < .001^{***}$.

significant difference was shown between the older-old respondents and the younger-old in their *Friendship Scale* scores ($m = 17.37/24 \pm 4.19$ older-old vs. 18.94 ± 4.17 younger-old; $U = -3.05$, $p = .002$) (Table 5).

4. Discussion

This study provides a profile of social isolation, and the demographic differences for four South African inner-city residential care facilities. Predominance was found in English speaking, females and respondents with lower levels of education. The study showed that though nearly half of the respondents met criteria for external social isolation due to low social network support and density, only a fifth had low levels of perceived social isolation or low Friendship levels.

This contrasted with the markers for internal social isolation which showed higher levels of satisfaction, and a sense of self-efficacy with a strong sense of belonging to the residence. A further contrast was found in the literature which discusses the negative consequences of residential care living and the need for social engagement outside of the setting (Chippis & Jarvis, 2016; Drageset et al., 2012; Dupuis-Blanchard, Neufeld & Strang, 2009). This contrast might be particular to this setting in light of lower trust and the inner city location of the residences. The findings suggest that the social networks within the residences may have offered the salience required in the relationships. The ability to provide support decreases loneliness (O'Rourke et al., 2018), and in older persons, quality relationships can be found in smaller functional networks where relationships exhibit close ties, trust, reciprocity, social support and value for each other, allowing for a sense of self-efficacy (Cornwell, Laumann & Schumm, 2008; de Jong Gierveld et al., 2016). The high levels of reciprocity amongst the respondents, despite their lower social network density and lesser involvement in community activities, also

suggests that this emanates from relationships within the residence. These results evidence that despite networks shrinking with age (Cornwell & Waite, 2009; Keating, Swindle & Foster, 2005), and that although relocation to residential care can decrease the frequency and intimacy of contact between the resident and the family (Grenade & Boldy, 2008), the creation of meaningful social engagement holds value. The sense of support is possibly in the form of informal volunteering as residents care for each other (Leedahl, Sellon & Gallopyn, 2017).

The social contribution of the residential care setting offers significant input to social integration and decreasing the risk of social isolation and loneliness (Cornwell et al., 2008; Dupuis-Blanchard et al., 2009). Hence the development of social capital, strengthening through rich resources of social networks and support (Putnam, 2000), and a move from Western models of care to the use of such models as the Eden Alternative of care, or for care to be undergirded by "Ubuntu", a South African philosophy of 'oneness' and 'interconnection' (Gade, 2012; O'Rourke et al., 2018), might be relevant to replace traditionally predictive markers for social isolation. Nonetheless it cannot be overlooked that three distinct groups of people in this setting reported higher levels of external social isolation, namely respondents who lived on their own in their own homes prior to relocation, older-old respondents, and separated or divorced respondents.

Living alone prior to relocation has been reported to be synonymous with decreased network support and density, and time spent with network members, particularly family (Cornwell, 2011). It is not clear if this was a social pattern carried over from the previous living arrangement as information was not extracted about social isolation levels prior to relocation, or due to integration difficulties such as being an outsider or misunderstood (Buckley & McCarthy, 2009; Roos & Klopper, 2010), or presenting with unique personality profiles such as loners by choice

or repulsive personalities. A large portion of socially isolated people do live alone (Kobayashi, Cloutier-Fisher & Roth, 2009), and this focus area requires further investigation, signalling to intake counsellors and policy makers of residential care settings the importance of recognising vulnerable persons who would need more support/monitoring than others.

This study confirmed the risk of increasing social isolation with age, with the oldest-old respondents reporting significantly lower social network contact, support and density which may have contributed to their lower Friendship scores. In concurrence with this study, Cornwell, et al. (2008) found significant differences in network density in age groups with the older-old having an average network size of two persons. The reduced network contact may be due to the mortality of the network group, lower trust levels (Mmotlane, Struwig & Roberts, 2010), or distances separating family (van Biljon & Roos, 2015). Less network contact could alternatively be explained in terms of society's ageism and the devaluing of older persons through stereotypes of burdensome and dependence (Kobayashi et al., 2009; Officer et al., 2016). The Theory of Socio-emotional Selectivity explains older persons' focus on the closest relationships (Stevens & van Tilburg, 2011), with a preference to maintain rather than build friendships (Neves, Franz, Munteanu & Baecker, 2018; Stevens & van Tilburg, 2011). Lastly an explanation may be related to older-old respondents' high level of dissatisfaction with their physical health, with its related incumencies (Cornwell & Waite, 2009; Cornwell, 2011; Phaswana-Mfuya et al., 2013). Physical changes can bring discomfort in the discussion thereof (Cornwell, 2011), as well as a shift in the power differentials of seeking help, possibly giving explanation to the lesser ability to access confidants.

The Psychiatric Nurse interacting with older South Africans transitioning into or residing in residential care facilities, needs to be mindful of the risks of social isolation and older persons' changing demographics, influenced by emigration of children (van Biljon & Roos, 2015), and the concomitant loss of contact with grandchildren (Strydom, 2005), and the weakening of the traditional African family structures (Aboderin & Hoffman, 2015). It is important that the Psychiatric Nurse builds this diversity into programme planning, utilising the strengths that buffer older persons against social isolation.

5. Conclusion

The separation in this study of social isolation into the two constructs of external and internal social isolation offered a unique profile of the elderly and insight into the protective factors promoting Healthy Ageing (WHO, 2018). This study highlights that residential care living does not offer a safety net from social isolation, but does provide some social integration and a buffer against perceived social isolation. An increase in the focus on developing 'oneness' within the residential community offers a counter to social isolation (O'Rourke et al., 2018). Program planners however need to identify and focus on the marginalised vulnerable older persons for their unique context as opposed to relying on traditional markers of social isolation.

6. Limitations

The specific context of the study and the small sample size of the study limits generalisation of the findings. Further, while information was collected about residence prior to relocation and associations made, the study did not capture information on factors contributing to social isolation at this point in the respondents' lives.

7. Recommendations

Social isolation should be assessed for all elderly persons at health-care visits, and before admission to residential care living. Intake procedures should incorporate context specific risk profiles for social isolation. Future studies involving older persons need to explore the

factors linked to social integration into residential care living.

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