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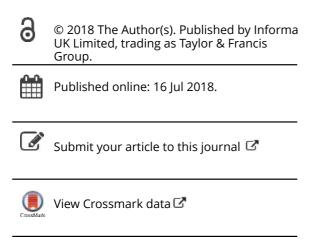
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RESEARCH PAPER

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Structural disadvantage and (un)successful ageing: gender differences in activities of daily living for older people in Chile

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ABSTRACT

Discourses on successful ageing have changed the way older age is viewed and the possibilities associated with it. However, such discourses do not always take into account differential capacities and resources that may shape disadvantage for women. The aim of this article is to examine gender differences in the experience of difficulties carrying out basic and instrumental activities of daily living (ADLs) in community-living people over the age of 65, using Chile as a case study. We also examine the effect of healthcare provider on performance of ADLs. We carried out logistic regressions on cross-sectional data from a sample of over 33,000 men and women, drawn from the 2015 National Socioeconomic Characterisation Survey, conducted by the Ministry of Social Development of the Government of Chile. We found significant gender differences in experiences of performing ADLs for older people in Chile, with women consistently reporting more problems than men. The affiliation with the public health provider was also associated with gender differences. The results of our study indicate that women in Chile experience structural disadvantage in their efforts to age successfully, reporting higher levels of functional limitations. We argue that it is important that gender-sensitive public health initiatives be developed, focusing on the prevention of functional disability.

ARTICLE HISTORY

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KEYWORDS

Gender; activities of daily living; women; Chile; older people; ageing

Introduction

The term *successful ageing* has been mobilised in the literature in many ways; it is generally related to the basic belief that older people can, and indeed should try to, lead active, healthy lives, free from disability (Martin et al., 2015). For Rowe and Kahn (1996), successful ageing comprises three main components: absence of disease or disability, high cognitive function, and active engagement with life. Older people themselves also report that maintaining an active life and engaging in various activities are important in order to age successfully (Huijg, Van Delden, Van Der Oude, Westendorp, & Lindenberg, 2016).

There has been considerable criticism of successful ageing, mainly because it does not explicitly or adequately address issues of structural disadvantage and social context (Martinson & Berridge, 2015; Stephens, 2017). Research has evidenced how factors, such as childhood conditions, income inequality, and homelessness, can negatively affect people's opportunities for successful ageing (Brandt, Deindl, & Hank, 2012; Waldbrook, 2015). As men and women age, they are more likely to experience problems carrying out activities of daily living (ADLs), such as taking a bath, doing house chores, or going out shopping, which may impact their ability to maintain functional independence, a commonly stated indicator of successful ageing. Several studies have documented this aspect, attributing this higher prevalence of functional disability to the increased incidence of impairment and illness with age, and

to other age-related factors such as cognitive impairment, loss of muscle mass, and depression (McGuire, Ford, & Ajani, 2006; Perissinotto, Cenzer, & Covinsky, 2012). Such functional limitations are a key priority in the design of public health programmes, because they are strong indicators of disability and mortality in older age (see for example Nikolova, Demers, Beland, & Daniel, 2011). Furthermore, functional limitations are associated with diminished quality of life and increased healthcare costs (De Vriendt, Peersman, Florus, & Verbeke, 2015; Sirven & Rapp, 2016).

The intersection of different characteristics, such as gender, socioeconomic status (SES), and healthcare provision, can affect the emergence or severity of functional disability in older people. Beydoun and Popkin (2005) found that low SES was associated with higher incidence of functional disability, with differences in educational attainment being the most significant factor. Smith and Goldman (2007) reported similar results in their study on functional limitations on older people in Mexico. In a study on prevalence of functional disability in the USA, Ostchega, Harris, Hirsch, Parsons, and Kington (2000) found that the intersection between race and gender was associated with functional disability, with minority women demonstrating greater functional disability compared to any other group, echoing the findings of an earlier study by Warner and Brown (2011).

Existing evidence suggests that indeed functional disability is not equitably distributed between women and men; women consistently report more problems in carrying out ADLs (see for example Arber & Cooper, 1999; Bora & Saikia, 2015; Da Silva Alexandre et al., 2012; Kavanagh et al., 2015; Zeki Al Hazzouri, Sibai, Chaaya, Mahfoud, & Yount, 2011; Zunzunegui et al., 2015). Despite its great policy relevance, gender is not always explicitly addressed in analyses of functional limitations. Knowing whether women are more likely to experience functional limitations can inform the design of public health programmes sensitive to the problems faced by women and help diminish both the gender disparities in experience of disability in later life and the associated extra healthcare costs.

The aim of this study was to investigate if there are differences in the performance of carrying out basic and instrumental activities of daily living (ADLs from now on, unless we need to differentiate between the two) between older men and women, using Chile as a case study. Basic ADLs refer to those self-care activities that a person needs to perform and which are necessary for daily functioning. Instrumental ADLs refer to those activities that while not necessary for daily functioning, they nevertheless enable independent living in the community. More specifically, we examine gender differences in ADL performance for people over 65 years of age (from now on, 'older people'). Our hypothesis is that older women are more likely to experience difficulties in performing ADLs than men. We also examine the association between health provider and the performance of these activities; this aspect is particularly important in the Chilean context - as well as for other countries with a dual healthcare system - since the Chilean system is particularly stratified with the lower socioeconomic classes and disadvantaged groups, such as older people and women, using primarily the resource-poor public healthcare provider.

In the following sections, we offer a brief overview of the specific social context within which people in Chile age, before presenting the methodology of the study and the results. We then move on to the discussion section, study limitations, and concluding remarks.

Background: older people and ageing in Chile

The unique conditions in Chile – exemplified through the combination of a collectivist social structure, whereby older people are supported by family to continue living in the community, with a limited, and often charity-based welfare system, and a highly unequal healthcare system (Pereira, Angel, & Angel, 2007; Unger, De Paepe, Cantuarias, & Herrera, 2008) – provide an opportunity to examine gender differences in this specific context. According to the latest information from the 2017 Census, 11.4% of the Chilean population, that is, a little over 2 million people, are over the age of 65 (INE, 2018); out of these, almost 57% are women (INE, Instituto Nacional de Estadísticas, 2018), corresponding to international trends, and the phenomenon of 'feminisation' of ageing (WHO, 2014). In 2015, the average life expectancy for men in Chile was 76.7 years, while for women it was 81.7 years (World Bank, 2017a).

The vast majority of the population age in the community rather than in residential care (Marin, Guzman, & Araya, 2004), due both to strong social ties and the unaffordability and unavailability of residential care (Pereira et al., 2007). Families take care of their older members, thus attenuating some of the risk factors for functional decline, such as Ioneliness (Perissinotto et al., 2012). Public health programmes focusing on preventing functional decline in older people and on supporting family carers are limited. This lack of public health initiatives, combined with an inadequate, and often charity-based welfare system and a highly unequal healthcare system, mean that there is limited support for older people beyond the immediate family network.

Chile has often been described as a neoliberal experiment, where the healthcare system operates quided by the values of cost efficiency and resource management, thus turning health into a marketised product leading to a very unequal system, both in terms of access and in terms of services provided (Homedes & Ugalde, 2005; Rotarou & Sakellariou, 2017). The elimination of universal public healthcare during Pinochet's military government led to the establishment of the National Health Fund (FONASA, from its initials in Spanish) and private health insurance institutions (ISAPREs, from their initials in Spanish) in 1981. Thus, a new two-tier health system was created, characterised by inequalities in access to healthcare and insufficient protection of people before health risks, both regarding financial protection and access to timely attention (Rojas, 2011).

Unlike in other countries with dual health systems, in Chile these two providers are not complementary and people have to choose one or the other. The contract premium for ISAPREs is determined by sex, age, and risk. Increased costs, combined with practices of cream skimming by the ISAPREs (Lloyd-Sherlock, 2000), often lead to the exclusion of older people, creating a structural disadvantage for this part of the population. More than 90% of older people are on low incomes (Table 1) and access the underfunded and overburdened FONASA (Labra, 2002).

The Chilean National Agency for Older People (Servicio Nacional del Adulto Mayor – SENAMA) has recognised the existence of gaps in service provision for older people, especially in the community (SENAMA, 2009, 2013, 2015). Aiming to fill the gap in preventive and supportive care in the public system, civil society - primarily through the organisations Hogar de Cristo and Fundación Las Rosas – aims to offer services to older people. These services are in the form of outpatient programmes and a few residential care facilities, which are, nonetheless, mostly concentrated in the metropolitan region of Santiago (Marin & Wallace, 2002; Pereira et al., 2007).

Methods

This study is based on cross-sectional data from a sample of over 33,000 older men and women, available from the 2015 National Socioeconomic Characterisation Survey (Encuesta Nacional de Caracterización Socioeconómica – CASEN), conducted by the Ministry of Social Development of the Government of Chile. This survey is performed every two to three years since 1985, and aims at estimating the extent of poverty and income distribution, identifying priority groups, especially those living in poverty, and evaluating the disparities separating different social segments and geographical areas (Ministry of Social Development, 2016). The results are anonymised and are freely available, as is the methodology, from the website of the Ministry of Social Development of the Chilean government (http://observatorio.ministeriodesarrollosocial. qob.cl/casen-multidimensional/casen/casen 2015,php). Our study did not require ethical approval, since our analysis was based on anonymised data that are freely available in the public domain. The survey includes seven modules: registry of residents, education, employment, income, health, residents, and housing.

The 2015 CASEN survey covered 83,887 households – 266,968 people – across the 15 regions and 324 counties of Chile. The sample design was probabilistic, stratified, conglomerate, and in multiple stages, and the results were representative at the national level. The survey was performed as a personal interview - lasting, on average, 47 minutes for a household of four people - from 2 November 2015 until 31 January 2016. All the analyses were performed using STATA version SE 14.

Table 1. Comparison of socioeconomic and demographic characteristics of older Chilean men and women.

Parameter	Men (n = 15,132)			Women $(n = 18,209)$		Total $(n = 33,341)$	
	n	%	n	%	n	%	
Geographical location							
Urban	10,745	71.01	14,075	77.30	24,820	74.44	
Rural	4,387	28.99	4,134	22.70	8,521	25.56	
	Pearson chi ² (1)	= 171.775, p < .0	0001				
Age groups							
65-74	9,166	60.57	10,409	57.16	19,575	58.71	
75–84	4,580	30.27	5,544	30.45	10,124	30.37	
85–94	1,280	8.46	2,045	11.23	3,325	9.97	
95–110	106	0.70	211	1.16	317	0.95	
	Pearson chi ² (3)	= 98.373, p < .00	001				
Civil status							
Married	9,543	63.07	6,659	36.57	16,202	48.59	
Living with or in a relationship	1,274	8.42	822	4.51	2,096	6.29	
Separated,	929	6.14	1,359	7.46	2,288	6.86	
divorced, or							
annulled							
Widowed	2,064	13.64	7,058	38.76	9,122	27.36	
Single	1,322	8.74	2,311	12.69	3,633	10.90	
	Pearson chi ² (4)	= 3.400, p < .000	01				
Indigeneity							
Not indigenous	13,855	91.56	16,812	92.33	30,667	91.98	
Indigenous	1,277	8.44 = 6.591, p = .010	1,397	7.67	2,674	8.02	
Equalised income (mean, sd)*	x = 495,696 SI	•		SD = 787,253	x = 485,372 S	D = 839,728	
	t(33,339) = 2.04	17, $p = .041$					
Education (years)							
	x = 7.09 $t(33,339) = 9.65$	SD = 4.81 50, $p < .0001$	x = 6.59	SD = 4.59	x = 6.81	SD = 4.7	
Housing							
Acceptable	12,569	83.06	15,790	86.72	28,359	85.06	
Substandard	2,414	15.95	2,328	12.78	4,742	14.22	
Unacceptable	149	0.98	91	0.50	240	0.72	
	Pearson chi ² (2)	= 98.280, $p < .00$	001				
Health provider							
FONASA	13,572	89.69	16,671	91.55	30,243	90.71	
Armed forces	454	3.00	504	2.77	958	2.87	
ISAPREs	943	6.23	905	4.97	1,848	5.54	
Out-of-pocket	163	1.08	129	0.71	292	0.88	
	Pearson chi ² (3)	= 41.284, p < .00	001				
Health self-assessment							
Bad	2,290	15.13	3,030	16.64	5,320	15.96	
Average	7,711	50.96	9,566	52.53	17,277	51.82	
Good	5,131	33.91	5,613	30.83	10,744	32.22	
Disability	rearson cni (2)	= 40.093, $p < .00$	JUI				
Disability	11 001	73.23	12,779	70.18	23,860	71.56	
No disability						/ 1 56	
No disability With disability	11,081 4,051	73.23 26.77	5,430	29.82	9,481	28.44	

^{*} Equivalised income is presented in Chilean pesos (1 USD = 603 Chilean pesos, average March 2018).

Variables

In the CASEN survey, 33,619 people over the age of 65 were interviewed. Due to listwise deletion (default in STATA), our sample includes 33,341 older people: 15,132 men (45.4%) and 18,209 women (54.6%). Since only a very small percentage of observations (0.01%) was deleted, we decided not to proceed to maximum likelihood or multiple imputation (Allison, 2017).

The demographic, socioeconomic, and health-related variables that are used as controls in our study include the following: (a) geographical location: urban/rural; (b) age groups: 65-74/75-84/85-94/95–110; (c) civil status: married/living with or in a relationship/separated, divorced or annulled/ widowed/single; (d) indigeneity: not indigenous/indigenous (people belonging to one of the nine state-recognised indigenous groups); (e) equalised income (log); household income divided by square root of household size (square root equivalence scale); (f) education: years of schooling; (g) housing: acceptable/substandard/unacceptable; (h) health provider: FONASA (public)/Armed forces/ISAPRE (private)/out-of-pocket; (i) health self-assessment: bad (scores 1 and 2)/average (scores 3-5)/good (scores 6 and 7); and (j) disability: no disability/with disability.

The various ADLs employed in this study as dependent variables have been used extensively to determine gender differences in performing daily activities among the elderly (see for example Cameron, Song, Manheim, & Dunlop, 2010; Zhang, 2005). The variables that we use to assess the experience of daily activities of older men and women in Chile include the following:

- Basic activities of daily living: (a) difficulty in eating (including cutting food and filling up glasses); (b) difficulty in taking a bath (including entering and getting out of the bath tub); (c) difficulty in moving around the house; (d) difficulty in using the toilet; (e) difficulty in lying down and getting up of bed; and (f) difficulty in getting dressed.
- Instrumental activities of daily living: (g) difficulty in going out on the street; (h) difficulty in going shopping or to the doctor's; and (i) difficulty in doing house chores.

People were asked to declare if they face a difficulty in performing one or more of these activities and indicate whether they have 'no difficulty', 'some difficulty', 'moderate difficulty', 'severe difficulty', or 'extreme difficulty'. For the purposes of our analysis, the last four categories were grouped together under the category 'with difficulty' (for similar binary response options, please see Dunlay et al., 2015; Nourhashémi et al., 2001; Reijneveld, Spijker, & Dijkshoorn, 2007).

Results

Table 1 presents a comparison of demographic and socioeconomic characteristics of older Chilean men and women.

Figure 1 shows a comparison of experience of difficulties in performing ADLs for older men and women in Chile.

As can be observed, for almost all activities of daily living measured (exception being 'difficulty in eating'), a higher percentage of women reported difficulties than men. More specifically, the

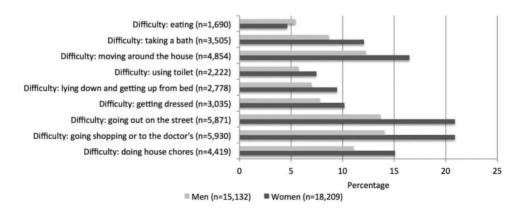


Figure 1. Comparison of experience of difficulties in performing ADLs for older Chilean men and women. Note: The numbers in parentheses for ADLs show the total number of people asserting that they have difficulty in performing the activities.



activities that the highest percentage of women reported having a difficulty in performing are 'going out on the street' and 'going shopping or to the doctor's' (21%). Gender differences in all parameters are statistically significant, with p < 0.0001.

Table 2 shows the age-adjusted, partially adjusted, and fully adjusted odds ratios concerning men and women's experience of difficulties in performing ADLs. There was no collinearity affecting the results, with mean variance inflation factor of 1.27.

Table 2 shows that the observed differences in most of the examined ADLs are statistically significant. The parameter 'difficulty in eating' is statistically insignificant, which is consistent with previous research that indicates little gender differences in this activity (Zeki Al Hazzouri et al., 2011). Differences in getting dressed and using the toilet are also statistically insignificant. The remaining results show that older Chilean women are more likely than older Chilean men to experience difficulty in performing various daily activities, ranging from 1.1 times higher odds of having difficulties in taking a bath, to 1.5 times higher odds of experiencing difficulty in going out on the street.

Table 3 presents gender differences in the experience of ADLs between older Chileans depending on whether they are affiliated with FONASA (public) or an ISAPRE (private). Since about 91% of

Table 2. Comparison of experience of difficulties in performing ADLs between older men and women (age-adjusted, partially adjusted, and fully adjusted odds ratios).

Parameters Reference = Men: 1.00	Age-adjusted OR 95% CI	(1) Partially adjusted OR 95% CL	(2) Partially adjusted OR 95% CI	Fully adjusted OR 95% CI
Difficulty: eating	2370 CI	(1) Fartially adjusted Oil 95% Ci	(2) Fartially adjusted Oil 95% Cr	2370 CI
Women	1.075	1.068	1.018	0.897
WOITIETT	(0.971–1.189)	(0.965–1.182)	(0.915–1.132)	(0.798–1.009)
Difficulty: taking a ba	. ,	(0.903-1.182)	(0.913-1.132)	(0.730-1.003)
Women	1.335***	1.326***	1.315***	1.147**
Women	(1.238–1.440)	(1.229–1.431)	(1.211–1.429)	(1.046–1.257)
Difficulty: moving arc	,	(1.22)	(1.211 1.123)	(1.010 1.237)
Women	1.326***	1.320***	1.337***	1.239***
	(1.243-1.415)	(1.237–1.408)	(1.243–1.438)	(1.144–1.343)
Difficulty: using toilet	,	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,
Women	1.208***	1.196***	1.154**	1.028
	(1.103-1.322)	(1.092-1.310)	(1.047-1.272)	(0.922-1.145)
Difficulty: lying down	and getting up fron			
Women	1.292***	1.282***	1.254***	1.156**
	(1.191 - 1.403)	(1.181–1.392)	(1.148–1.369)	(1.048-1.274)
Difficulty: getting dressed				
Women	1.235***	1.224***	1.192***	1.083
	(1.142 - 1.337)	(1.131–1.325)	(1.094-1.298)	(0.985-1.191)
Difficulty: going out on the street				
Women	1.604***	1.591***	1.709***	1.518***
	(1.508-1.707)	(1.495-1.693)	(1.592-1.835)	(1.405-1.641)
Difficulty: going shopping or to the doctor's				
Women	1.550***	1.537***	1.627***	1.462***
	(1.457-1.648)	(1.445–1.635)	(1.516–1.746)	(1.353-1.579)
Difficulty: doing house chores				
Women	1.334***	1.323***	1.329***	1.201***
	(1.246-1.427)	(1.236–1.416)	(1.232–1.434)	(1.104-1.306)

^{**}p < .01, ***p < .001

Note 1: There were 33,619 observations for age-adjusted ORs, 33,466 observations for partially adjusted ORs (1), and 33,341 observations for partially adjusted ORs (2) and fully adjusted ORs.

Note 2: (1) Partially adjusted ratios include personal characteristics (sex and age) and health provider. (2) Partially adjusted ratios include personal characteristics (sex and age) and socioeconomic characteristics (income, education, health provider, and disability). Fully adjusted odds ratios include all the variables of Table 1.



Table 3. Association between healthcare provider and experience of difficulties in performing ADLs between older men and women (fully adjusted odds ratios).

Parameters	5011161	151005
Reference: Men = 1.00	FONASA	ISAPRE
Difficulty: eating		
Women	0.901	2.046
	(0.798-1.017)	(0.994-4.210)
Difficulty: taking a bath		
Women	1.150**	1.036
	(1.046–1.265)	(0.557–1.926)
Difficulty: moving around the house		
Women	1.259***	1.017
	(1.159–1.368)	(0.614-1.686)
Difficulty: using toilet		
Women	1.025	.809
	(0.916-1.146)	(0.404-1.621)
Difficulty: lying down and getting up from bed		
Women	1.157**	.952
	(1.045-1.280)	(0.512-1.771)
Difficulty: getting dressed	,	,
Women	1.067	1.198
	(0.968-1.177)	(0.647 - 2.219)
Difficulty: going out on the street		
Women	1.514***	1.326
	(1.398-1.641)	(0.790-2.226)
Difficulty: going shopping or to the doctor's		
Women	1.454***	1.151
	(1.343-1.574)	(0.694-1.909)
Difficulty: doing house chores		
Women	1.180***	1.357
	(1.082–1.286)	(.804-2.292)

^{**}p < .01, ***p < .001

Note 1: There were 30,243 observations for FONASA and 1,847 observations for ISAPRE. Note 2: Fully adjusted odds ratios include all the variables of Table 1.

older people are affiliated with FONASA and about 6% with an ISAPRE, only these two health providers are included.

The above results indicate that generally older women who are affiliated with the public health system - FONASA - are more likely to face difficulties in performing ADLs if compared to older men with FONASA: the difference ranges from 1.2 times (for example, in doing house chores) to 1.5 times higher odds (for instance, in going shopping or to the doctor's) compared to men with FONASA. Regarding ISAPREs, all results are statistically insignificant, a possible indication of the protective role of higher SES.

Figure 2 shows the estimated probabilities of older men and women having difficulties in performing ADLs, when the response variable is Y = 1, the predictor variable is health system (public and private), and the other predictor variables are held at their mean. The figure shows estimated probabilities for FONASA and ISAPRE.

As can be seen from Figure 2, with the exception of 'difficulty in eating', older women affiliated with FONASA are the ones experiencing more difficulties in performing ADLs, while men affiliated with an ISAPRE have the least difficulties.

Discussion

The aim of this article was to explore if there were gender differences in the experiences of difficulties carrying out ADLs between older men and women in Chile, and whether the affiliation



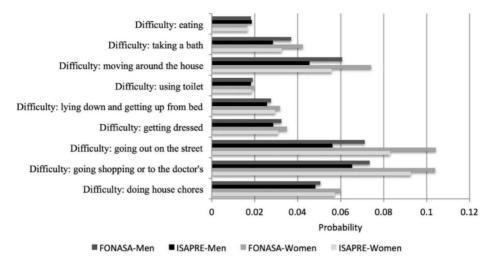


Figure 2. Estimated probabilities with health system as predictor variable.

to the public or private healthcare provider was associated with such difficulties. Our data showed the existence of significant gender differences, with older women reporting more difficulties than men in general, and if they were affiliated with the public healthcare system in particular. This was so both for basic and instrumental ADLs. The differences were significant across all activities, and remained so for most of them when controlling for other factors. This is consistent with previous studies, which indicate significant differences between older men and women with regard to experiences of ADLs (see for example Da Silva Alexandre et al., 2012; Zeki Al Hazzouri et al., 2011; Zunzunegui, Alvarado, Beland, & Vissandjee, 2009).

As the number of people per household decreases as Chile now has the lowest fertility rate in South America (1.78 in 2015, according to the World Bank, 2017b), and thus, the number of people readily available to offer support to an elderly family member also decreases, it becomes highly important for people to maintain their functional independence. Taking into account that Chile shares many health characteristics with several high income countries – high life expectancy, below-replacement fertility rates, and increase in chronic, non-communicable diseases the results and suggestions being proposed here could be useful for other countries, facing similar challenges. Here, we discuss the results in relation to discourses of successful ageing and relate them to the specific context of Chilean society, which is experiencing changes at a demographic, epidemiological, and social level. By doing so, we aim to highlight what is at stake for older people or, in other words, why it is important to retain their functional independence.

Several explanatory hypotheses for the disparities in functional disability between women and men have been proposed, including the higher prevalence of some diseases, including arthritis and depression in women, and social disadvantage experienced by women, in the form of lower education, increased responsibilities for housework, and lower SES leading to worse access to healthcare and to higher morbidity (Arber & Cooper, 1999; Da Silva Alexandre et al., 2012; Zeki Al Hazzouri et al., 2011; Zunzunegui et al., 2015). Critical disability perspectives highlight the ways that other environmental or contextual elements, such as cultural values, unequal distribution of wealth, and power relations that support ableist assumptions and physical environments, shape the occurrence and experience of disability, although such factors are often not discussed explicitly in research addressing disability and ageing (Grenier, 2005).

In the case of Chile, one reason for these differences between older men and women could be the increased socioeconomic disadvantage women face, including lower rates of employment and education, and lower earnings (2009; OECD, 2014; SENAMA, 2008). Another reason could be the reported lower levels of physical activity between older men and women in Chile: 32% of men compared to 23.2% of women report engaging regularly in physical activity (SENAMA, 2013). Furthermore, higher prevalence of certain conditions, such as arthritis or depression, might make women more vulnerable to functional limitations. For example, in the CASEN 2015 sample, we found that older women had 1.3 times higher odds of suffering from hypertension, 1.3 times higher odds of suffering from diabetes, and 3.2 times higher odds of suffering from depression than older men (results not presented here but available upon request).

The results also showed that being affiliated with the public healthcare provider (FONASA) was associated with more difficulties in experiencing ADLs for older women than men. Despite recent health reforms aimed at addressing equity issues in healthcare, the stratification of the healthcare system persists (Rotarou & Sakellariou, 2017; Unger et al., 2008). Older women might be particularly disadvantaged, due to lower employment and lower wages, leading to reduced ability to pay for timely and good-quality healthcare services or access to preventive services that the private healthcare sector offers. No significant gender disparities were observed for people accessing private healthcare through an ISAPRE, indicating most likely the protective role of high SES independent of gender.

The rapid demographic and epidemiological changes in Chilean society have led to higher longevity and higher prevalence of non-communicable and lifestyle disease, a fact that makes imperative the design of ageing-related public policies (Marin & Wallace, 2002). Most people in Chile continue living in the community into old age, rather than moving into residential care. Marin et al. (2004) found that only 2% of older Chileans lived in residential care, indicating the important role of families in taking care of older people and supporting them to live in the community, coupled with the unaffordability of residential care for many people (Pereira et al., 2007). In a recent survey, over 80% of the participants (people over 60 years of age) responded that helping older people carry out basic and instrumental ADLs was the primary responsibility of the family (SENAMA, Servicio Nacional del Adulto Mayor, 2013). Demographic changes suggest this might not be possible in the future, as social changes might make it difficult for families to continue caring for older family members, as it has happened in other countries in South America (see for example Biehl, 2012), unless they are supported (Pereira et al., 2007). This will require new models of care and an increased role of the state and of civil society.

As this study shows, gender shapes disadvantage for women, who experience higher difficulties in carrying out ADLs. Laliberte Rudman (2016) argues that "the duty to age well" may be differentially achievable according to gender' (p. 324). Reporting on results from the SABE study in Brazil on disabilities in ADLs, Da Silva Alexandre et al. (2012) conclude that 'women have a greater incidence of disability under conditions of social vulnerability and chronic disease' (p. 434). Reporting on findings from the same study, Zunzunegui et al. (2009) conclude that there is a 'lack of differential vulnerability of women and men in LAC populations [Latin American and Caribbean]' and argue for 'the need to develop a wider conceptual framework including additional biological and social factors' (pp. 240-241) to explain the gender differences in self-reported health status, including ability to perform ADLs.

More than an individual responsibility, gender and successful ageing

By making ageing into an individual responsibility, successful ageing discourses discount the social context within which ageing occurs and instead convey the message that independence is possible for all, as long as they make the 'right' choices (Boudiny, 2013; Laliberte Rudman, 2015). Exploring care structures for older people in Chile, Pereira et al. (2007) argued that 'the general philosophy informing the new policy initiatives has been to encourage autovalencia (self-reliance), and envejecimiento sano y activo (healthful and active ageing)' (p. 2098). These values are linked with neoliberal discourses of ageing, which frame health and independence as a responsibility (Asquith, 2009), the responsibility for 'successful ageing' (Rowe & Kahn, 1996). Inequalities in opportunities

for people to age well with reduced morbidity (Sadana, Blas, Budhwani, Koller, & Paraje, 2016) can turn this responsibility into an added burden in people's lives. The encroachment of neoliberalism in the domestic sphere of ageing and also caring (see for example Han, 2012) can further disadvantage women. Although independence and continuing activity are, in fact, desired by many – if not most – older people, they are not always possible, due to a variety of reasons that can include ill health, disability, or socioeconomic conditions.

The need to develop policies sensitive to the specific issues faced by women has been recognised by the Chilean Government at least since 2009 (SENAMA, Servicio Nacional del Adulto Mayor, 2009). Such policies need to be guided by approaches sensitive to the differential capabilities experiences by different people (Stephens, 2017). Acknowledging inequalities between the experiences of older women and men, SENAMA (2017) recognised the need to develop initiatives that are sensitive to the unique problems faced by older women. At the time of writing (May 2018), no initiatives specifically targeting gender inequalities had been announced.

The very high rate of people living in the community, combined with the very low provision of residential care establishments, might necessitate the introduction of ways to care for this population in the community, as also suggested by Marin and Wallace (2002). Community-based programmes, at the primary care level, that can screen for and address functional limitations in carrying out basic and instrumental ADLs could go a long way in addressing problems and prevent further disability. Such programmes, however, need to be sensitive to the gendered nature of ageing, as Foster and Walker (2013) argue, and (a) acknowledge the sociocultural conditions that make women more at risk for experiencing difficulties, (b) be complemented by prevention policies and advocacy initiatives that address the structural factors underpinning the gender differences in difficulties performing ADLs, and (c) be combined with an information campaign, since a large percentage of older people in Chile are not aware of the role of community-based programmes, including day centres (SENAMA, Servicio Nacional del Adulto Mayor, 2013).

Limitations

One of the limitations of the study is that we cannot make any causal inferences as to the reasons for gender differences in experiences of performing ADLs for older people in Chile, due to the cross-sectional nature of the data. Furthermore, it should be noted that there could be some bias in our sample due to the inclusion of older healthy people, and a higher percentage of women (as mortality of men is higher than women's). Another limitation is that we could not explore whether gender differences in carrying out ADLs have changed over time, since the current set of questions regarding ADLs has only been included in the CASEN survey since 2013. Furthermore, in the 2015 CASEN survey, difficulties in performing ADLs are self-reported, which might have an impact on validity and reliability. We found no information regarding response bias in the CASEN survey and how they were addressed. However, self-reported instruments of functional disability have been reported to be valid in previous epidemiological studies (Ferraro & Su, 2000). Also, there could be gender differences in reporting functional limitations, with men being more hesitant to report (Murtagh & Hubert, 2004). Another limitation is that only people living in the community were included in the CASEN, excluding people living in residential care. This, however, might not have excluded many people: exploring the place of death in many countries, Broad et al. (2013) reported that 0% of people in Chile died in a residential care setting (although there are questions about how this was measured).

Conclusions

Using Chile as a case study, in this article we explored gender differences in functional disability. This study adds to a body of literature that focuses on the interplay between old age, gender, functional limitations, and healthcare provision. Through the use of cross-sectional data, we found that women consistently reported more problems performing ADLs. The affiliation with the public health provider also led to gender differences in ADL performance. It is essential that more information be collected in order to explore the reasons for these differences and how they create differential abilities for men and women in achieving successful ageing. We argue that within the changing demographic, epidemiological, and social landscape of Chilean society it is important that public health initiatives be developed to prevent functional disability, taking into account the fact that women appear to face greater disadvantage than men.

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References

Allison, P. (2017). *Listwise deletion: It's NOT evil*. Statistical Horizons. 11 December 2017,Retrieved from http://statisticalhorizons.com/listwise-deletion-its-not-evil.

Arber, S., & Cooper, H. (1999). Gender differences in later life. *The New paradox? Social Science & Medicine, 48*, 61–76. Asquith, N. (2009). Positive ageing, neoliberalism and Australian sociology. *Journal of Sociology, 45*(3), 255–269.

Beydoun, M. A., & Popkin, B. M. (2005). The impact of socio-economic factors on functional status decline among community-dwelling older adults in China. *Social Science & Medicine*, 60(9), 2045–2057.

Biehl, J. (2012). Care and disregard. In D. Fassin (ed.), *A companion to moral anthropology, 1st ed.* Oxford: John Wiley & Sons. Bora, J., & Saikia, N. (2015). Plos One. *Gender Differentials in Self-Rated Health and Self-Reported Disability among Adults in India*. doi:10.1371/journal.pone.0141953

Boudiny, K. (2013). 'Active ageing': From empty rhetoric to effective policy tool. *Ageing and Society*, *33*, 1077–1098. Brandt, M., Deindl, C., & Hank, K. (2012). Tracing the origins of successful aging: Therole of childhood conditions and social inequality in explaining later life health. *Social Science & Medicine*, *74*, 1418–1425.

Broad, J., Gott, M., Kim, H., Boyd, M., Chen, H., & Connolly, M. (2013). Where do people die? An international comparison of the percentage of deaths occurring in hospital and residential settings in 45 populations, using published and available statistics. *International Journal of Public Health*, 58, 257–267.

Cameron, K. A., Song, J., Manheim, L. M., & Dunlop, D. D. (2010). Gender disparities in health and healthcare use among older adults. *Journal of Women's Health*, 19(9), 1643–1650.

Da Silva Alexandre, T., Corona, L., Nunes, D., Santos, J., Duarte, Y., & Lebrao, M. (2012). Gender differences in incidence and determinants of disability in activities of daily living among elderly individuals: SABE study. *Archives of Gerontology and Geriatrics*, 55, 431–437.

De Vriendt, P., Peersman, W., Florus, M., & Verbeke, D. (2015). Improving health related quality of life and independence in community dwelling frail older adults through a client-centred and activity-oriented program. A pragmatic randomized controlled trial. *The Journal of Nutrition, Health & Aging*. doi:10.1007/s12603-015-0581-1

Dunlay, S. M., Manemann, S. M., Chamberlain, A. M., Cheville, A. L., Jiang, R., Weston, S. A., & Roger, V. L. (2015). Activities of daily living and outcomes in heart failure. *Circulation: Heart Failure*, 8(2), 261–267.

Education at a glance: Country note – Chile. 23 November 2017, Retrieved from https://www.oecd.org/education/Chile-EAG2014-Country-Note.pdf

Ferraro, K. F., & Su, Y. P. (2000). Physician-evaluated and self-reported morbidity for predicting disability. *American Journal of Public Health*, 90(1), 103–108.

Foster, L., & Walker, L. (2013). Gender and active ageing in Europe. European Journal of Ageing, 10, 3-10.

Grenier, A. M. (2005). The contextual and social locations of older women's experiences of disability and decline. *Journal of Aging Studies*, 19(2), 131–146.

Han, C. (2012). Life in debt: Times of care and violence in neoliberal Chile. Berkeley: University of California Press.

Homedes, N., & Ugalde, A. (2005). Why neoliberal reforms have failed in Latin America. Health Policy, 71, 83-96.

Huijg, J., Van Delden, A., Van Der Oude, F., Westendorp, R., & Lindenberg, J. (2016). Being active, engaged, and healthy: Older persons' plans and wishes to age successfully. *Journals of Gerontology: Psychological Sciences*. doi:10.1093/geronb/gbw107

INE, Instituto Nacional de Estadísticas (2018). *Resultados Censo 2017*. 14 May 2018Retrieved from https://resultados.censo2017.cl/.



Kavanagh, A., Krnjacki, L., Aitken, Z., LaMontagne, A., Beer, A., Baker, E., & Bentley, R. (2015). Intersections between disability, type of impairment, gender and socio-economic disadvantage in a nationally representative sample of 33.101 working-aged Australians, Disability & Health, 8, 191–199.

Labra, M. E. (2002). La reinvención neoliberal de la inequidad en Chile. El caso de la salud [Neoliberal reinvention of inequality in Chile: The case of the health sector]. Cadernos De Saúde Pública, 18(4), 1041-1052.

Laliberte Rudman, D. (2015). Embodying positive ageing and neoliberal rationality: Talking about the ageing body within narratives of retirement. Journal of Aging Studies, 34, 10-20.

Laliberte Rudman, D. (2016). The duty to age well. In D. Sakellariou & N. Pollard (eds), Occupational therapies without borders: Integrating justice with practice (pp. 319-327). Oxford: Elsevier.

Lloyd-Sherlock, P. (2000). Population ageing in developed and developing regions: Implications for health policy. Social Science & Medicine, 51, 887-895.

Marin, L., P., Guzman, M., Miguel, J., & Araya, G. A. (2004). Adultos Mayores institucionalizados en Chile: Cómo saber cuántos son. Review of Medicine, 132, 832-838.

Marin, P. P., & Wallace, S. (2002). Health care for the elderly in Chile: A country in transition. Aging Clinical and Experimental Research, 14, 271.

Martin, P., Kelly, N., Kahana, B., Kahana, E., Willcox, J., Willcox, D., & Poon, L. (2015). Defining successful aging: A tangible or elusive concept. The Gerontologist, 55(1), 14-25.

Martinson, M., & Berridge, C. (2015). Successful aging and its discontents: A systematic review of social gerontology literature. The Gerontologist, 55, 51-57.

McGuire, L. C., Ford, E. S., & Ajani, U. A. (2006). The impact of cognitive functioning on mortality and the development of functional disability in older adults with diabetes: The second longitudinal study on aging. BMC Geriatrics, 6(1), 8.

Ministry of Social Development (2016), Observatorio social: Encuesta CASEN. 20 November 2017, Retrieved from http:// observatorio.ministeriodesarrollosocial.gob.cl/casen_obj.php.

Murtagh, K., & Hubert, H. (2004). Gender differences in physical disability among an elderly cohort. American Journal of Public Health, 94(8), 1406-1411.

Nikolova, P., Demers, L., Beland, F., & Daniel, M. (2011). Transitions in the functional status of disabled communityliving older adults over a 3-year follow-up period. Archives of Gerontology and Geriatrics, 52, 12-17. (OECD (2014))

Nourhashémi, F., Andrieu, S., Gillette-Guyonnet, S., Vellas, B., Albarède, J. L., & Grandjean, H. (2001). Instrumental activities of daily living as a potential marker of frailty: A study of 7364 community-dwelling elderly women (the EPIDOS Study). Journal of Gerontology, 56A(7), M448-M453.

Ostchega, Y., Harris, T. B., Hirsch, R., Parsons, V. L., & Kington, R. (2000). The prevalence of functional limitations and disability in older persons in the US: Data from the National Health and Nutrition Examination Survey III. Journal of the American Geriatrics Society, 48(9), 1132-1135.

Pereira, L., Angel, R., & Angel, J. (2007). A case study of the elder care institutions of a Chilean non-governmental organization. Social Science & Medicine, 64, 2096-2106.

Perissinotto, C., Cenzer, I., & Covinsky, K. (2012). Loneliness in older persons. Archives of Internal Medicine, 172(14), 1078-1083.

Reijneveld, S. A., Spijker, J., & Dijkshoorn, H. (2007). Katz' ADL index-assessed functional performance of Turkish, Moroccan, and Dutch elderly. Journal of Clinical Epidemiology, 60, 382-388.

Rojas, J. L. (2011). GES (Explicit Healthcare Guarantees) and transplants: Funding system in Chile. Santiago: Government of Chile.

Rotarou, E. S., & Sakellariou, D. (2017). Neoliberal reforms in health systems and the construction of long-lasting inequalities in health care: A case study from Chile. Health Policy, 121(5), 495-503.

Rowe, J., & Kahn, R. (1996). Successful aging. The Gerontologist, 379(4), 433-440.

Sadana, R., Blas, E., Budhwani, S., Koller, T., & Paraje, G. (2016). Healthy ageing: Raising awareness of inequalities, determinants, and what could be done to improve health equity. The Gerontologist, 56(S2), S178-S193.

SENAMA, Servicio Nacional del Adulto Mayor. 2017. Carta Genero. 29 November 2017, Retrieved from http://www. senama.cl/index.html

SENAMA, Servicio Nacional del Adulto Mayor. (2008). Estadísticas sobre las personas adultas mayores: un análisis de género. Santiago: SENAMA. 20 November 2017, Retrieved from http://www.senama.cl/index.html

SENAMA, Servicio Nacional del Adulto Mayor. (2009). Las personas mayores en chile situación, avances y desafíos del envejecimiento y la vejez. Santiago: SENAMA.20 November 2017, Retrieved from http://www.senama.cl/index.html

SENAMA, Servicio Nacional del Adulto Mayor. (2013). Chile Y sus mayores: resultadostercera encuesta nacional calidad de vida en La Vejez. Santiago: SENAMA. 20 November 2017, Retrieved from http://www.senama.cl/index.html

SENAMA, Servicio Nacional del Adulto Mayor. (2015). Inclusión Y exclusión social de las personas mayores en chile. Santiago: SENAMA. 20 November 2017, Retrieved from http://www.senama.cl/index.html

Sirven, N., & Rapp, T. (2016). The cost of frailty in France. European Journal of Health Economics. doi:10.1007/s10198-016-0772-7

Smith, K. V., & Goldman, N. (2007). Socioeconomic differences in health among older adults in Mexico. Social Science & Medicine, 65(7), 1372-1385.



- Stephens, C. (2017). From success to capability for healthy ageing: Shifting the lens to include all older people. *Critical Public Health*, 27(4), 490–498.
- Unger, J. P., De Paepe, P., Cantuarias, G. S., & Herrera, O. A. (2008). Chile's neoliberal health reform: An assessment and a critique. *PLoS Medicine*, *5*(4), e79.
- Waldbrook, N. (2015). Exploring opportunities for healthy aging among older persons with a history of homelessness in Toronto, Canada. *Social Science & Medicine*, 128, 126–133.
- Warner, D. F., & Brown, T. H. (2011). Understanding how race/ethnicity and gender define age-trajectories of disability: An intersectionality approach. *Social Science & Medicine*, 72(8), 1236–1248.
- WHO, World Health Organisation (2014). *Ageing Fact sheet*. 20 October 2017, Retrieved from http://www.wpro.who.int/mediacentre/factsheets/fs 201203 ageing/en/
- World Bank (2017a). World Bank data: Life expectancy at birth. 20 November 2017, Retrieved from http://data.worldbank.org/indicator/SP.DYN.LE00.FE.IN?locations=CL
- World Bank (2017b). World Bank data: Fertility rate. 20 November 2017, Retrieved from http://data.worldbank.org/indicator/SP.DYN.TFRT.IN?locations=CL
- Zeki Al Hazzouri, A., Sibai, A., Chaaya, M., Mahfoud, Z., & Yount, K. (2011). Gender differences in physical disability among older adults in underprivileged communities in Lebanon. *Journal of Aging and Health*, 23(2), 367–382.
- Zhang, Z. (2005). Gender differentials in cognitive impairment and decline of the oldest old in China. *The Journals of Gerontology: Series B, 61*(2), S107–S115.
- Zunzunegui, M., Alvarado, B., Beland, F., & Vissandjee, B. (2009). Explaining health differences between men and women in later life: A cross-city comparison in Latin America and the Caribbean. *Social Science & Medicine*, *68*, 235–242.
- Zunzunegui, M., Alvarado, B., Guerra, R., Gomez, J., Ylli, A., & Guralnik, J.; IMIAS Research Group. (2015). The mobility gap between older men and women: The embodiment of gender. *Archives of Gerontology and Geriatrics*, 61, 140–148.