Geographical distance to children and internet use among older Europeans

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Abstract

Given the increasing importance of internet in daily life, we examined the role of children in the internet use of older Europeans. Using data from the Survey of Health, Ageing and Retirement in Europe (SHARE), we found that internet use was the highest among parents with all children living far away. This result bring support to the hypothesis that geographical distance between parents and children might be an important stimulus for older adult to use internet, rather than to the hypothesis that children living close may help older parents to use internet and digital tools. Future studies, using more detail information on internet use and motivations to its use can examine this topic in further detail.

Keywords: Intergenerational relationships; Distance to children; Internet use; Older adults.

Introduction

European countries, although at varying levels, are all experiencing the process of population ageing with individuals living longer with shrinking family networks. Ageing is not the only megatrend influencing European countries. We live in increasingly digital societies (Lupton 2015), where digital technologies have permeated everyday life.

Despite the process of digitalisation being not new, only relatively recently the internet has become used by a large part of the population in developed countries, although internet use still strongly varies with age ("age digital divide"), ranging in the EU-28 from above 95% for individuals younger than 44 to 79% and 61% in the age ranges 55-64 and 65-74,

respectively (Eurostat 2021). Internet use is even lower among people aged 75+, and reaches a minimum of 5% among people aged 90+. So, the myth of older people excluded from the broadband society has to be refused, but a heterogeneous access and use of digital technologies persists.

Given the increasing important of digital technologies to access to services offered by public and private institutions, as well as to be able to exploit the possibilities offered by telemedicine and digital health solutions, it is becoming more and more crucial to examine the factors that favors the use of internet among older adults.

In this paper, we focus on the role of children in the internet use among older Europeans. More specifically, we investigate whether the number of children, and more importantly the geographical distance with them influences internet use at older ages. The intergenerational relationships literature has widely recognized the important role of children as providers of support to older parents. One might argue that children (especially those living close by) may provide instrumental help to their parents also related to the use of digital tools, and to access the Internet more generally. However, it could also be argued that geographical distance to children may be a key motivation for older adults to use the Internet to contact their children.

A handful of studies, not focused on older people, addressed explicitly the question of whether children influence parents' use of the internet. In particular, some studies examined the role of living with children on adult parent's use of internet, usually finding a positive association (Correa et al 2015, Eynon & Helsper 2015, Korupp & Szydlik 2005); but in some cases, different result by children's age were reported (Galperin and Arcidiacono 2019). Other studies, not directly focused on the role of children in parents' internet use, reported a higher frequency of digital intergenerational contacts among transnational families, and more generally in the case of children living far away (Bacigalupe and Lambe 2011; Madianou and Miller 2013; Quadrello et al 2005; Vildaite 2018;).

Given the existence of a competing hypothesis on the relationship between distance to children and parents' internet use, as well as the few studies on the topic, we take an exploratory approach in examining the role of number of children and geographical distance between parents and children in older parents' use of internet.

Data and Methods

We use data from the Survey of Health, Ageing and Retirement in Europe (SHARE). SHARE is a longitudinal panel survey of individuals aged 50+ in 27 European countries and Israel. It is conducted biannually since 2004 (wave 3 and in part wave 7 only collected life histories). A question on internet use was introduced in wave 5. Wave 8 has been excluded because it was interrupted due to the COVID-19 pandemic. Thus, I use data from waves 5, 6 and 7.

The dependent variable is a dichotomous variable indicating whether the respondent used or not the internet in the seven days preceding the interview. The first explanatory variable in number of children (0 – reference; 1; 2; 3; 4 and more). The second explanatory variable combined number of children and the geographical distance between parents and children. As for what regards living distance, we distinguish children who live "close" (within 25 kilometers) and those who do not ("far"). For those parents with more than one child we also distinguish between parents who have all, the majority, at least one or none of their children living close to them. This gives rise to a 10-level categorical variable: childless; 1 child living far; 2 children, both living far; 3+ children, all living far; 1 child living close; 2 children, only 1 living close; 3+ children, only 1 living close; 2 children, both living close; 3+ children, most (2 or more) living close; 3+ children, all living close.

Our regression models control for several factors that might be associated with both internet use and our explanatory variables. Socio-demographic control variables include: age (in 5-year categories); marital status (married or in partnership - reference, never married, divorced or widowed); education (low - reference, medium and high), employment

status (working, retired - reference, other) and type of living area ("rural" =1 for respondents living in rural areas, =0 otherwise). We also control for two measures of health status. First, we consider information on the experience of chronic diseases reported in response to the question, "Has a doctor ever told you that you had any of the following conditions: Hypertension, diabetes, cancer, lung disease, heart disease, stroke and arthritis?" We include a dummy variable indicating whether the respondent reported at least one condition or not as control. Second, we control for limitations with activities of daily living. Finally, in all regression analyses we include dummies for the wave of the survey and countries.

Given that our explanatory variables display a low degree of within-individual change over time, we did not resort to fixed-effect models and instead we estimated logit regression models with clustered standard errors to account for repeated observations for some of the respondents. As mentioned in the introductory section, internet use varies greatly with age. Thus, we estimate separate models for individuals aged 50-69 and those aged 70+.

Results

Table 1 reports estimated coefficients from logistic regression models. Model 1 includes number of children as the explanatory variables. Model 2 includes the 10-level categorical variables that combines number of children with geographical distance as explained above. Model 1 shows that parents tend to be more likely than childless individuals to use the internet. There are some exceptions, tough. Parents of 4 or more children do not display a significantly different probability of internet use compared to childless people. This is also the case for older parents (70+) of 1 child.

The most interesting results are those offered by Model 2. Although in most cases parents show significantly higher probability of internet use compared to childless older adults, a great deal of heterogeneity exists. More specifically, estimated coefficients tend to be bigger and highly statistically significant especially for parents whose children are all living far away ("1 child far"; "2 children - both far"; "3+ children - all far"). Instead, parents with children all living close display statistically insignificant differences with respect to

childless people. In the case of parents with 3 or more children all living close, the sign of the coefficient is even reversed.

To better interpret these results from Model 2 of Table 1 we have calculated predicted probabilities with confidence intervals (Table 2). Table 2 shows, as expected, that predicted probabilities of internet use are always higher for the younger age group. Within each age group, the highest predicted probabilities are found for those parents who have all their children living far away. The lowest predicted probabilities are found, instead, for parents with all children living close and for childless individuals. For example, among individuals younger than 70 years, individuals with 2 or 3 children all living far show a predicted probability of internet use of 71%, against a predicted probability of 63% for childless people.

Conclusions

Given the increasing importance of internet in daily life, we examined the role of children in the internet use of older Europeans. We found that internet use was the highest among parents with all children living far away. This result bring support to the hypothesis that geographical distance between parents and children might be an important stimulus for older adult to use internet, rather than to the hypothesis that children living close may help older parents to use internet and digital tools. Future studies, using more detail information on internet use and motivations to its use can examine this topic in further detail.

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Tables

Table 1 – Estimated coefficients from logistic regression models of internet use as a function of number of children (Model 1) or number and distance to children (Model 2) by age groups.

Independent variables	Model 1 (Number of children)		Model 2 (Number and distance)	
	age < 70	age >= 70	age < 70	age >= 70
Number of children (Ref.: childless)				
1 child	0.18***	0.09		
	(0.04)	(0.05)		
2 children	0.20***	0.17***		
	(0.03)	(0.05)		
3 children	0.12***	0.17***		

	(0.04)	(0.05)		
4+ children	-0.07	0.05		
	(0.04)	(0.06)		
Number of children and distance to them (Ref.: childless)				
1 child far			0.33***	0.34***
			(0.06)	(0.08)
2 children - both far			0.49***	0.49***
			(0.05)	(0.06)
3+ children - all far			0.49***	0.50***
			(0.06)	(0.07)
1 child close			0.10**	-0.03
			(0.04)	(0.06)
2 children - 1 close			0.23***	0.20***
			(0.04)	(0.06)
3+ children - 1 close			0.20***	0.19***
			(0.05)	(0.07)
2 children - both close			0.05	0.01
			(0.04)	(0.06)
3+ children - most close			-0.03	0.01
			(0.05)	(0.06)
3+ children - all close			-0.22***	-0.16**
			(0.05)	(0.08)
Age (Ref.: 50-54 or 70-74)				
age 55-59	-0.26***		-0.27***	
	(0.03)		(0.03)	
age 60-64	-0.55***		-0.57***	
	(0.03)		(0.04)	
age 65-69	-0.97***		-1.01***	
	(0.03)		(0.04)	
age 75-79		-0.50***		-0.55***
		(0.03)		(0.03)
age 80-84		-1.11***		-1.13***
		(0.03)		(0.04)
age 85+		-1.79***		-1.82***
		(0.05)		(0.05)
Female	-0.06***	-0.48***	-0.07***	-0.49***
	(-0.02)	(0.03)	(-0.02)	(0.03)
Education (Ref.: Low)				
medium education	0.62***	0.76***	0.59***	0.76***
	(0.03)	(0.04)	(0.03)	(0.05)
high education	1.83***	1.87***	1.83***	1.85***
	(0.03)	(0.03)	(0.03)	(0.04)
Marital status (Ref.: In a partnership)				
never married	-0.42***	-0.52***	-0.44***	-0.53***
	(0.04)	(0.07)	(0.04)	(0.08)
divorced	-0.10***	-0.17***	-0.11***	-0.25***
	(0.03)	(0.05)	(0.03)	(0.05)
widowed	-0.28***	-0.47***	-0.32***	-0.47***
	(0.03)	(0.03)	(0.04)	(0.04)
Work status (Ref.: retired)				

working	0.56***	1.14***	0.58***	1.23***
	(0.03)	(0.09)	(0.03)	(0.11)
other	-0.51***	-0.85***	-0.50***	-0.89***
	(0.03)	(0.05)	(0.03)	(0.06)
illness	0.02	-0.01	0.01	-0.00
	(0.02)	(0.03)	(0.03)	(0.03)
gali	-0.40***	-0.51***	-0.40***	-0.52***
	(0.02)	(0.03)	(0.03)	(0.03)
rural	-0.36***	-0.43***	-0.35***	-0.46***
	(0.02)	(0.03)	(0.03)	(0.04)
Waves (Ref.: wave 5)				
wave 6	0.32***	0.38***	0.30***	0.38***
	(0.02)	(0.03)	(0.02)	(0.03)
wave 6	0.66***	0.72***	0.64***	0.65***
	(0.04)	(0.04)	(0.06)	(0.05)
Countries (Ref.: Austria)				
Germany	0.07	-0.05	0.04	-0.22***
	(0.04)	(0.06)	(0.05)	(0.07)
Sweden	1.86***	1.80***	1.72***	1.68***
	(0.06)	(0.06)	(0.07)	(0.07)
Netherlands	2.05***	1.82***	2.05***	1.81***
	(0.07)	(0.08)	(0.08)	(0.09)
Spain	0.06	-0.39***	0.11*	-0.37***
	(0.05)	(0.07)	(0.06)	(0.09)
Italy	-0.37***	-0.53***	-0.32***	-0.62***
	(0.05)	(0.07)	(0.05)	(0.09)
France	0.74***	0.79***	0.56***	0.59***
	(0.05)	(0.06)	(0.06)	(0.08)
Denmark	1.88***	1.48***	1.82***	1.40***
	(0.06)	(0.06)	(0.07)	(0.07)
Greece	-1.07***	-1.77***	-1.11***	-1.83***
	(0.05)	(0.10)	(0.06)	(0.13)
Switzerland	0.96***	0.94***	0.89***	0.87***
	(0.06)	(0.06)	(0.07)	(0.08)
Belgium	0.99***	0.77***	0.99***	0.81***
	(0.05)	(0.06)	(0.05)	(0.07)
Israel	-0.07	0.48***	-0.07	0.42***
	(0.06)	(0.07)	(0.07)	(0.09)
Czech Republic	-0.01	-0.06	-0.09*	-0.16**
	(0.04)	(0.06)	(0.05)	(0.07)
Poland	-1.34***	-2.12***	-1.46***	-2.33***
	(0.07)	(0.17)	(0.08)	(0.27)
Luxembourg	0.87***	0.58***	0.82***	0.50***
	(0.06)	(0.10)	(0.07)	(0.12)
Portugal	-0.21**	-0.12	-0.24**	-0.27
	(0.08)	(0.14)	(0.10)	(0.18)
Slovenia	-0.53***	-0.87***	-0.49***	-0.88***
	(0.05)	(0.08)	(0.06)	(0.09)
Estonia	-0.28***	-0.55***	-0.37***	-0.70***
	(0.05)	(0.06)	(0.05)	(0.07)

Croatia	-0.97***	-1.44***	-1.08***	-1.66***
	(0.07)	(0.16)	(0.08)	(0.21)
Constant	-0.39***	-1.69***	-0.32***	-1.54***
	(0.06)	(0.08)	(0.07)	(0.09)
N	69931	46345	63616	39454

Note: *** p<0.01; ** p<0.05; * p<0.1.

Table 2 – Predicted probabilities of internet use by number and distance to children (Model 2) and age groups.

Categories of the explanatory variable	Age < 70			Age >= 70		
	P	Confidence interval		P	Confidence interval	
Childless	0.63	0.63	0.64	0.24	0.23	0.25
1 child far	0.69	0.68	0.70	0.28	0.27	0.29
2 children - both far	0.71	0.70	0.72	0.30	0.29	0.31
3+ children - all far	0.71	0.70	0.72	0.30	0.29	0.31
1 child close	0.65	0.64	0.66	0.24	0.23	0.24
2 children - 1 close	0.67	0.67	0.68	0.26	0.26	0.27
3+ children - 1 close	0.67	0.66	0.67	0.26	0.25	0.27
2 children - both close	0.64	0.64	0.65	0.24	0.23	0.25
3+ children - most close	0.63	0.62	0.64	0.24	0.23	0.25
3+ children - all close	0.60	0.59	0.61	0.22	0.21	0.23

Note: predicted probabilities are estimated using logistic regression models (Model 2 in Table 1).