Friendship, housing environment and economic resources

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28 Friendship, housing environment and economic resources: what influences social network size after age 50?

- People do not compensate for low income by having more friends or family ties
- Cities are not anonymous places for older people
- Crime-ridden neighbourhoods diminish social network size among women
- Recent mobility increases family ties while immobility reduces ties with friends

28.1 Social networks, housing and economic resources

"No man is an island" wrote the poet John Donne. Even economists, the champions of atomistic agents maximising their utility, have developed formal models of altruism, household bargaining, reciprocity, or peer effects. More simply, social ties have been shown to be important for a variety of economic and non-economic outcomes and they are likely to be particularly relevant in old age when help from others becomes a necessity. Bonsang and van Soest (2012) motivate their study of the satisfaction with social contacts of older Europeans by referring to various studies on the strong link between satisfaction with social life and subjective well-being (Van Praag & Ferrer-i-Carbonell 2008).

In this chapter we take a different perspective. Rather than assessing the importance of social networks, we focus on the determinants of their size. Are social networks a purely personal affair, or are they influenced by factors such as the housing environment where a person lives? From the novels of Dickens and the reports of Villermé in the 19th century to the fundraising of Abbé Pierre in post WWII France, many have stressed the morbid influence of slums, or of lack of sun and space. More recently the "Moving to Opportunity for Fair Housing" randomised experiment in the U.S.A. demonstrated the programme's greater long term beneficial impact on health and subjective well-being rather than on economic outcomes (Ludwig et al. 2008).

Studies on the influence of the environment on older individuals' well-being are less common (Cagney et al. 2009, Everson-Rose et al. 2011). If well-being depends on having many social ties and if the environment influences the number of social ties, an issue for economic policy, especially in a time of economic crisis,

is how to promote good environments in order to increase them. To answer this question, we use information from the social network and housing modules of the fourth wave of the Survey of Health, Ageing and Retirement in Europe (SHARE), in addition to demographics, health and socio-economic status.

The variable of interest – social network size – is derived from a series of probes in which respondents are asked to name up to seven people with whom they most often discuss important things. The "social network" in question does not encompass all possible social relationships but is limited to seven confidants, by design (see Stoeckel and Litwin in this volume).

We characterise the housing environment by the type of building (from farm house to high rise building), location (from rural area to big city), tenure (owner, tenant, free occupation) and mobility. The nature of the association between social network size and location or type of building where one lives is not clear *a priori*. On the one hand, living in a city makes the potential network larger (e. g. living in an apartment building increases the number of neighbours). On the other hand, cities lead to more anonymity and high rise buildings may have adverse consequences on trust and friendship, due to their impersonality and potential for crime. Moreover, having many neighbours does not turn them into confidants.

As for housing tenure, the associations with the social network size are likely to be multiple. First, home-ownership is a sign of a higher permanent income; to the extent that the social network is linked to income, it might be linked to home ownership as well. Second, housing tenure is linked to family formation (Öst 2011) and most network members are the children. Although we control for the number of children, home-ownership might capture unobserved preferences for both family life and socialisation. In the same vein home-owners are considered to be better citizens (DiPasquale & Glaeser 1999), which could increase their sociability. Third, home-ownership increases mobility costs and is linked to less residential mobility, which, in turn, might foster long term links with those who live nearby. Thus, home-ownership and immobility should be linked to a larger social network. Alternatively, one might move in order to get closer to family or friends. In that case, home-ownership and immobility might be linked to a smaller social network.

28.2 The Matthew effect

We carry out simple OLS regressions to analyse the relation between the economic resources and the housing environment of respondents and the size of their social network, controlling for demographics [age groups, gender, number of children (dummies), number of grandchildren, absence of brothers and of sisters, household size and marital state], self-reported health and the country of residence.

Table 28.1: Economic and housing determinants of the size of the network

Variables	Whole sample (1)	Longitudinal sample (2)	Whole sample (3)
Income per consumption unit			
First quartile	ref	ref	ref
Second quartile	0.191***	0.225***	0.192***
	(0.019)	(0.032)	(0.019)
Third quartile	0.291***	0.276***	0.292***
	(0.020)	(0.034)	(0.020)
Fourth quartile	0.291***	0.312***	0.292***
	(0.021)	(0.037)	(0.021)
Years of education	0.026***	0.023***	0.026***
	(0.002)	(0.003)	(0.002)
Making ends meet			
With great difficulty	ref	ref	ref
With some difficulty	0.091***	0.085*	0.091***
	(0.023)	(0.047)	(0.023)
Fairly easily	0.132***	0.127***	0.133***
	(0.024)	(0.047)	(0.024)
Easily	0.216***	0.193***	0.216***
	(0.027)	(0.051)	(0.027)
Household size	0.037***	-0.025	0.036***
	(0.009)	(0.016)	(0.009)
Farm	ref	ref	ref
House	0.043	–0.051	0.044
	(0.029)	(0.052)	(0.029)
Row house	0.077**	–0.034	0.078**
	(0.034)	(0.058)	(0.034)
Flat - 3 to 8 floors	0.055	–0.042	0.057
	(0.036)	(0.064)	(0.036)
Flat - 9 or more floors	0.141***	0.046	0.143***
	(0.035)	(0.065)	(0.035)
High rise	0.246***	0.006	0.247***
	(0.049)	(0.098)	(0.049)
Big city	0.203***	–0.021	0.203***
	(0.025)	(0.045)	(0.025)
Large town	ref	ref	ref
Suburban	0.048*	–0.121***	0.048*
	(0.027)	(0.043)	(0.027)
Small town	0.077***	–0.109***	0.077***
	(0.022)	(0.036)	(0.022)
Rural area	–0.018	–0.132***	–0.018
	(0.023)	(0.038)	(0.023)
Number of rooms per person	0.040***	0.002	0.039***
	(0.009)	(0.015)	(0.009)

Variables	Whole sample (1)	Longitudinal sample (2)	Whole sample (3)
Rent-free	ref	ref	ref
Owner	−0.016	0.028	−0.016
	(0.028)	(0.055)	(0.028)
Tenant	−0.095***	−0.084	−0.094***
	(0.036)	(0.067)	(0.036)
Submarket rent	0.097***	0.115**	0.097***
	(0.035)	(0.059)	(0.035)
Own second home	0.221***	0.260***	0.221***
	(0.017)	(0.030)	(0.017)
Mobile	0.007	−0.070	0.046
	(0.049)	(0.081)	(0.051)
Length of tenure - 1st quintile			0.035
			(0.024)
Length of tenure - 2nd quintile			0.011
			(0.022)
Length of tenure - 3rd quintile			0.039*
			(0.022)
Length of tenure - 4th quintile			0.014
			(0.022)
Length of tenure - 5th quintile			ref
Length of tenure	−0.001*	−0.000	
	(0.000)	(0.001)	
Pollution		0.091***	
		(0.033)	
Crime		−0.118***	
		(0.038)	
Constant	0.682***	1.172***	0.640***
	(0.101)	(0.164)	(0.099)
Observations	53,140	17,618	53,140
R-squared	(0.028)	(0.055)	(0.028)

Significance: *p < .10; **p < .05; ***p < .01
Notes: Standard errors in parentheses. The OLS regressions also control for age, gender, matrimonial status, number of children and grand-children, whether the respondent had no brothers or no sisters, health status and country of residence. Column (2) focuses only on the longitudinal sample.
Source: SHARE Wave 4 release 1

The first column of Table 28.1 shows that social network size is strongly correlated with the respondent's economic resources. Being able to make ends meet "easily" adds 0.22 confidants compared to being able to make ends meet "with great difficulty". Being in the bottom quartile of income by consumption unit (defined as

the square root of household size) is associated with 0.19 fewer confidants compared to being in the second lowest quartile. In addition, each year of education adds 0.03 confidants. These associations point to the so-called "Matthew" effect from the Gospel "whoever has, will be given more". People do not make up for low income by having more friends to talk to.

Social network size might be a social construction, at least partly. That is, the very enumeration of one's confidants might be linked to one's awareness of their importance, which, in turn, may be a function of economic status. Such *valuation neglect*, to borrow Sen's term, may lead to an overestimation of the association between social network size and socio-economic status (Sen 1985). Thus, not only do richer and more educated people have more social ties, but they are more likely to say that they do. In comparison, poorer and less educated persons tend to be less verbally fluent, and hence less expressive of feelings with family and friends. In France or French-speaking Belgium, for example, the latter group would be called "taiseux" or quiet. In a separate analysis using self-assessed verbal fluency at age ten for the sub-sample from the SHARELIFE study, we found that this was indeed the case – the less fluent had a smaller network. However, the verbal bias seems small as it hardly reduced the Matthew effect.

28.3 The housing environment

Table 28.1 also shows that social network size is correlated with various housing environment conditions. Three variables can be interpreted as proxies for a "supply" of close neighbours:

- Social network size is positively correlated with household size, once we control for income by consumption unit and housing conditions.
- Social network size increases with the size of the building. It is higher for respondents who live in high rise buildings or with nine or more floors compared to those living in smaller apartment buildings. Living in a row house is associated with a larger social network than living in an isolated house or on a farm.
- Social network size is positively correlated with local population density on a more general level, growing from rural areas and villages to big cities. One exception is that small towns yield bigger social networks than large towns; it might be because they can be closer to big cities.

Thus, all things being equal, people are apparently more likely to "discuss important things" when living in an apartment building, and in a big town, than in a less dense area or an isolated house. This might be the effect of the higher probability that apartment dwellers have someone with whom to discuss things, tele-

phone and internet notwithstanding. Hence the importance of neighbourhood effect even when "neighbours" are mostly relatives. The effect of geography might be linked to transportation costs.

If we run separate regressions for the number of family members in the network and the number of "friends" (defined as all network members that are not relatives), the above "neighbourhood supply" results are modified (Figure 28.1). The number of friends increases significantly with population density, while we observe a more moderate effect and a non-linear relationship for the size of family network, which is lowest in large towns, suburbs and rural areas, from which the children might have moved to a big city or a small town. It could also be that people self-select into quiet or more deserted places when they do not want or need to talk. Two countries are different: in Sweden only living in a big city has a significantly negative effect (it might be the effect of living in Stockholm) and in the Netherlands only small towns and rural areas have a positive influence on social network size.

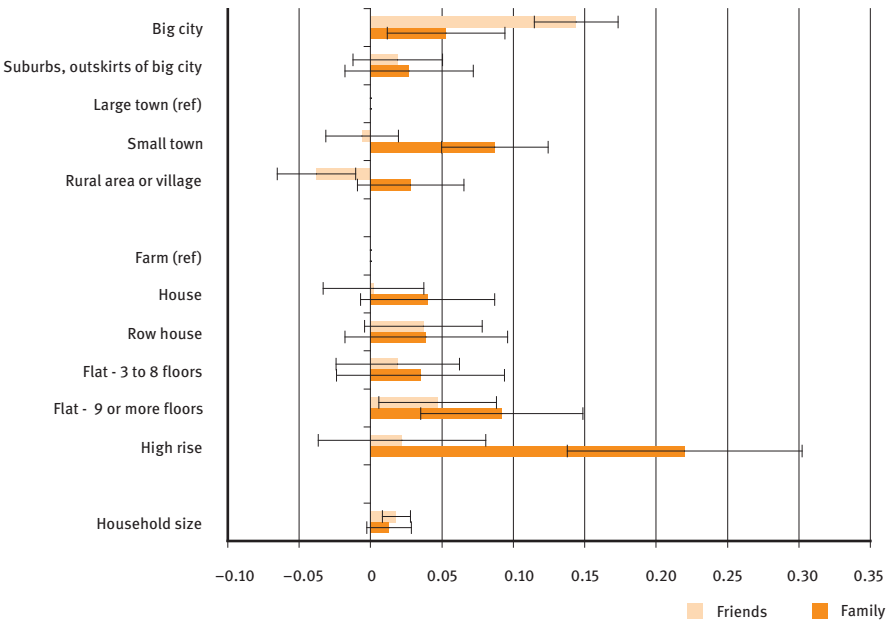

Figure 28.1: Effect of neighbourhood density on the number of friends and family members in the social network

Notes: Wave 4 respondents (n=53,140). Effects are extracted from the models in Table 28.2 (col. (1) and (2)) and controlled for all the variables in these models. Horizontal brackets indicate 95 per cent confidence intervals.

Source: SHARE Wave 4 release 1

In column two of Table 28.1 and columns three and four of Table 28.2 we focus on the longitudinal sample, for which we have additional information on the characteristics of the neighbourhood in which respondents lived, specifically whether the area suffered from "vandalism or crime" or from "pollution, noise or other environmental problems". A crime ridden neighbourhood was detrimental to social network size and this effect was rather large (–0.12). It is the same for males and females as far as the number of family members in the network is concerned, but non-significant for the number of friends among the men. Only women are penalised by vandalism and crime in their friendship ties; security aspects seem more relevant to them and, probably, to their friends (analyses available on request). Complaining about neighbourhood noise or pollution has a positive effect on the number of friends but not on the number of family members in the network. We interpret this as an alternative channel for the city density effect, or as another sign of the education effect, insofar as more highly educated people are more likely to complain of pollution *ceteris paribus*.

Table 28.2: Economic and housing determinants of the size of the social network by type of network

Variables	Whole sample (1) friends	Whole sample (2) family	Longitudinal sample (3) friends	Longitudinal sample (4) family
Income				
First quartile	ref	ref	ref	ref
Second quartile	0.084***	0.108***	0.088***	0.137***
	(0.012)	(0.016)	(0.021)	(0.027)
Third quartile	0.114***	0.177***	0.098***	0.177***
	(0.012)	(0.017)	(0.022)	(0.029)
Fourth quartile	0.136***	0.155***	0.135***	0.177***
	(0.013)	(0.018)	(0.024)	(0.032)
Years of education	0.019***	0.007***	0.015***	0.008***
	(0.001)	(0.001)	(0.002)	(0.003)
Making ends meet				
With great difficulty	ref	ref	ref	ref
With some difficulty	–0.006	0.097***	–0.003	0.088**
	(0.014)	(0.020)	(0.030)	(0.040)
Fairly easily	–0.009	0.141***	0.018	0.109***
	(0.015)	(0.021)	(0.030)	(0.040)
Easily	0.027	0.189***	0.052	0.141***
	(0.017)	(0.023)	(0.032)	(0.043)
Number of rooms per person	0.032***	0.008	0.036***	–0.034***
	(0.006)	(0.008)	(0.010)	(0.013)

Variables	Whole sample (1) friends	Whole sample (2) family	Longitudinal sample (3) friends	Longitudinal sample (4) family
Own second home	0.088***	0.134***	0.105***	0.155***
	(0.010)	(0.014)	(0.019)	(0.025)
Mobile	–0.041	0.048	–0.079	0.008
	(0.030)	(0.042)	(0.052)	(0.069)
Length of tenure	–0.002***	0.001**	–0.001***	0.001
	(0.000)	(0.000)	(0.000)	(0.001)
Pollution			0.051**	0.040
			(0.021)	(0.028)
Crime			–0.039	–0.079**
			(0.024)	(0.032)
Constant	–0.036	0.718***	0.190*	0.982***
	(0.062)	(0.086)	(0.104)	(0.138)
Observations	53,140	53,140	17,618	17,618
R-squared	0.131	0.101	0.121	0.084

Significance: *p < .10; **p < .05; ***p < .01
Notes: Standard errors in parentheses. The OLS regressions also control for age, gender, matrimonial status, number of children and grand-children, whether the respondent had no brothers or no sisters, health status, country of residence, the neighbourhood density variables (household, building and city sizes, presented separately in Figure 28.1) and tenure status (presented separately in Figure 28.2). Columns (3–4) focus only on the longitudinal sample.
Source: SHARE Wave 4 release 1

28.4 Being a tenant decreases the size of the social network, except in social housing

Globally home-owners or rent-free occupants have a larger social network than tenants (Table 28.1). More precisely, occupying a dwelling rent-free increases the number of family members in the network; it is a sign of close family relationships as such living arrangements are likely to be provided by the children. However, tenants whose rent is below the market level have a larger social network than other tenants (Figure 28.2). Rent level is linked to the length of dwelling tenure for several reasons (e. g. rent regulation, landlord/tenant relationship). In many countries, new tenants pay higher rents than current tenants. The extent of this difference is determined by the length of time that the current tenant has resided in her dwelling. Having a below-market rent might also mean being less mobile as well as living in subsidised social or public housing.

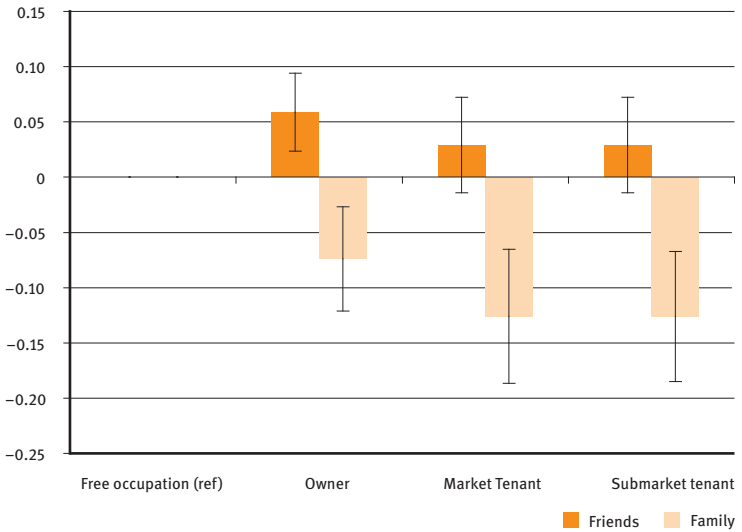

Figure 28.2: Effect of home tenure on the number of friends and family members in the social network

Notes: Wave 4 respondents (n=53,140). Effects are extracted from the models in Table 28.2 (col. (1) and (2)) and controlled for all the variables in these models. Vertical brackets indicate 95 per cent confidence intervals.

Source: SHARE Wave 4 release 1

The explanation for all this, in terms of social ties, is twofold. First, unobserved characteristics associated with lower rent may also be responsible for having a larger social network after controlling for length of tenure and recent mobility. Alternatively, the rent rebate provided by social housing may be seen as an increase in permanent income, and is to be interpreted in line with the positive economic endowment effect on social network size. Similarly, the effect of home ownership on the social network might be reduced once imputed rent is taken into account. We should keep in mind that a minority of our non nursing home respondents are tenants (16 %), but a third of them claim to benefit from an under market rent, akin to social housing or rent control. Two other variables linked to housing conditions confirm the Matthew effect: owning a second home and having more rooms per person both increase the size of the network. Other wealth variables behave in the same direction as well: wealthier respondents have a larger social network (not shown).

28.5 Are moves made in order to increase the family ties?

To estimate the effect of residential mobility on social network size we introduced a measure for the length of tenure, the number of years the respondent had lived in the home. As length of tenure might capture country specificities in the housing market, we also defined quintiles of the same variable *at the country level*, with a "quintile zero" for those who moved recently (mobility within the last two years). We found out that mobility had not much effect on the overall size of the social network (Table 28.1, column three).

Separating the network of family members from the network of friends, we find that both extreme immobility and to a lesser extend recent mobility decrease the number of friends while both rather increase that of family confidants (Figure 28.3). The decrease in friends for those who are immobile might stem from the friends' mobility. That is, one must follow one's friends not to lose them.

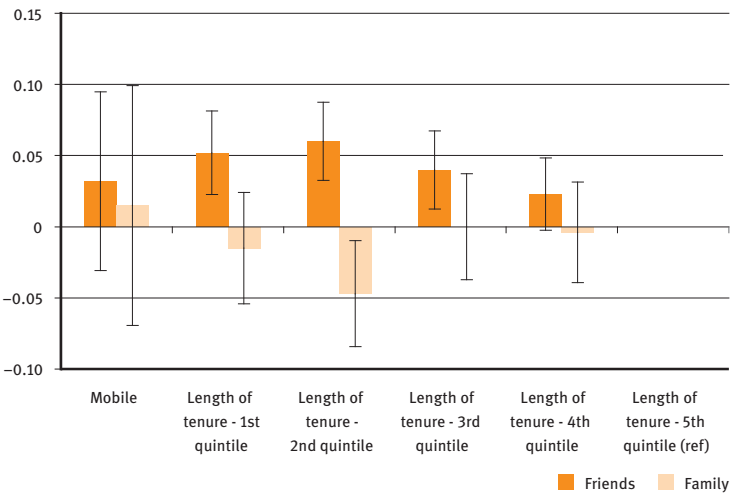

Figure 28.3: Effect of length of tenure and residential mobility on the number of friends and family members in the social network
Notes: Wave 4 respondents (n=53,140). Effects are controlled for all the variables of Table 28.2 (except length of tenure). Length of tenure is divided in quintiles at the country level. Those who moved in the last two years are excluded from the 1st quintile; they make up the "mobile" category. Vertical brackets indicate 95 per cent confidence intervals.
Source: SHARE Wave 4 release 1

To get more insight into the effect of residential mobility on the size of family network we concentrated on the sub-sample of those who have at least one child and who answered the question on the location of their children. For them, recent mobility significantly increases the number of family members in the network (not shown). One possible explanation might be that the move was made in order to get closer to a child. The data do not allow us to easily check this point, because it might be the child who has moved close to the parent. However if we add distance to the nearest child in the regression we find that the optimal distance, in terms of size of family network is close (less than 5 kilometres) but not too close (not co-residing or living in the same building) (Figure 28.4).

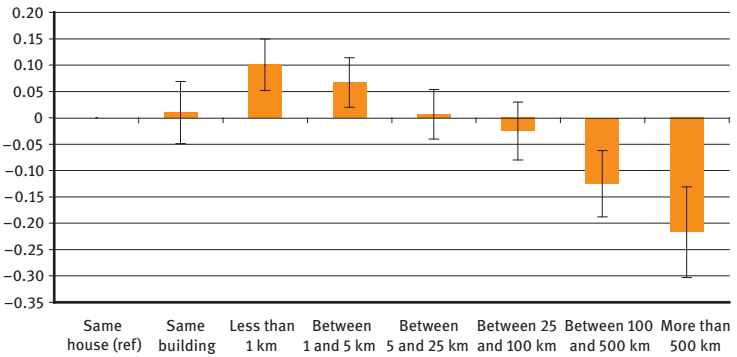

Figure 28.4: Effect of distance to closest child on the size of the family network of a parent
Notes: Wave 4 respondents with at least one child and for whom the distance to the nearest child is not missing (n=43,145). Effects are controlled for all the variables of Table 28.2. Vertical brackets indicate 95 per cent confidence intervals.
Source: SHARE Wave 4 release 1

Bonnet et al. (2010) found that mobile French widows were likely to get closer to their family. The SHARE data add further evidence: the move does increase the family network and, presumably, the mover's well-being, all else considered. On the whole, we find no sign that immobility helps to build friendship ties, but rather the contrary. Evidence is more mixed for family ties: residential immobility helps to build up family ties, but recent mobility also increases the size of the family network among those who have children.

28.6 A materialistic approach to friendship?

The positive correlation between income and wealth and the size of the social network confirms the so-called Matthew effect of the Gospel. People do not seem to compensate for low resources by having more friends. On the contrary, being educated and not income- or asset-deprived contributes to friendship and, even more, to family ties. The Gospel hints at the dynamic of reinforcement: an open and outgoing person is more likely to have friends, get married and have children, and to be rewarded as a good employee. Part of this might be either a valuation neglect effect (I am less likely to mention a confidant if I am poor), or a "verbal" bias. However, the bias seems small. It could mean that the economic crisis will have a negative effect on friendship ties.

This being acknowledged, the housing environment has an effect, *ceteris paribus*. We find that cities are not anonymous places where older people are lost or lonely, but that living in a flat and even in a high-rise building favours sociability. So does living in a row house rather than a free standing house. Our results should be taken with caution, however, as most of the members of the social network are family. The correlation might stem from a higher probability of having a family member nearby when living in a city (even controlling for number of children, grandchildren, presence of siblings, spouse, and household size), and not from the effect of the "big city" *per se*. When we separate family from non-family members of the social network, the density effect is found to be clearer and more important in relation to friends. In addition, crime-ridden neighbourhoods diminish social network size among women. Hence improving security has both a direct and an indirect positive effect on the welfare of women.

We also find some signs that residential mobility is beneficial for the number of family members in a parent's social network, and that immobility might decrease ties with friends. Tenants have a smaller social network than those who own or are in a rent-free dwelling; however it is not the case for those who benefit from submarket rents. The latter do not differ from home owners in this respect.

As we mentioned in an earlier work (Angelini & Laferrère 2008) a majority of those aged 50 or more live in houses (65%), many live in rural areas (35%), and their mobility rate is low. This may challenge their well-being, not only because houses are more difficult and expensive to maintain, less adapted to physical disabilities, and further away from potential care providers, but because they also reduce the size of the social network.

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