Family, social networks and health among Spanish elderly

Dolores Puga (dpuga@ieg.csic.es)
Spanish National Research Council

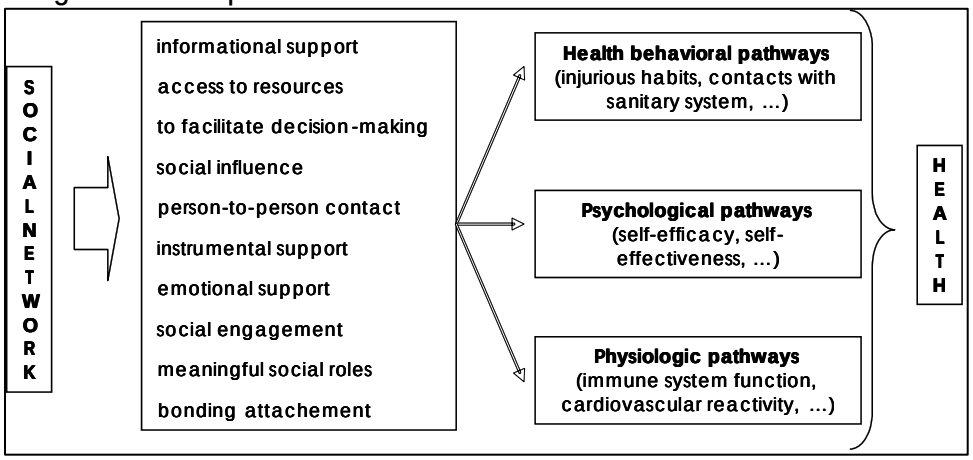
Functional and cognitive deterioration that can be reached in advanced moments of the life course does not associate only with the ageing, but also with the way of life and the characteristics of the environment of the individual. Recent investigations have shown that beyond the biological specific conditions, factors as the social network, social integration and participation, affect the social vulnerability, acting like predictors of personal situations relative to the health and the functional autonomy of the elderly.

The aim of this study is to analyze the effect of the social networks of Spanish older adults on their level of autonomy (in terms of instrumental and basic disability) and self-perceived health.

Background

Diverse studies have shown the positive effect on health of social integration and strong social relations[1]; results that are especially relevant in the case of the older adults, for who to participate in vigorous physical activities can be especially difficult. To maintain active social relationships and to be integrated in the family and the community can lead to a feeling of satisfaction to play important social roles, and to feelings of self-efficacy, control and personal ability. Also, to develop a social paper contributes to a more satisfactory adaptation to the declines related to age. Social integration facilitates the access to information on health services, encourages to healthier behaviours, promotes the use of well-being services, and provides instrumental and emotional help[2]. In Spain, the results of the study *Aging in Leganés* have shown that the older adults with more social ties have smaller probabilities of mortality, cognitive deterioration, depression and disability, and even greater probabilities of recovery after a disability episode[3].

Figure 1. Conceptual framework



[1] AVLUND, K.; LUND, R.; HOLSTEIN, B.; DUE, P.; SAKARI-RANTALA, R.; HEIKKINEN; R. (2004): "The impact of structural and functional characteristics of social relations as determinants of functional decline" Journal of Gerontology: Social Sciences 59B(1), pp.S44-S51; BERKMAN, L; MELCHIOR, M.; CHASTANG, J.; NIEDHAMMER, I.; LECLERC, A.; GOLDBERG, M. (2004): "Social Integration and Mortality: A Prospective Study of French Employees of Electricity of France-Gas of France" American Journal of Epidemiology 159 (2), pp. 167-174; HOLTZMAN, R. (2004): "Social network characteristics and cognition in middle-aged and older adults", Journals of Gerontology: Series B Psychological Sciences 59B, pp. P278-P284; HOUSE, J.; LANDIS, K.; UMBERSON, D. (1988): "Social relationships and Health" Science 241, pp.540-545; MENDES DE LEON, C.; GLASS, T.; BERKMAN, L. (2003): "Social Engagement and Disability in a Community Population of Older Adults" American Journal of Epidemiology 157 (7), pp. 633-642; SEEMAN, T.; BRUCE, M.; MCAVAY, G. (1996): "Social networks characteristics and onset of ADL disability: MacArthur studies of successful aging", Journal of Gerontology B Social Sciences 51, pp. S191-S200; UNGER,J. B.; MCAVAY, G., BRUCE, M. L.; BERKMAN, L.; SEEMAN, T. (1999): "Variation in the impact of social network characteristics on physical functioning in elderly persons: MacArthur studies of successful aging", Journal of Gerontology: Social Sciences 54B, pp. S245-S251

[2] BERKMAN, L; GLASS, T. (2000): "Social integration, social networks, social support and health", en Berkman, Kawachi (edit.): Social Epidemiology, New York, Oxford University Press, pp. 137-173

[3] OTERO, A., ZUNZUNEGU,I M. V., BELAND, F., RODRÍGUEZ LASO, A., GARCÍA DE YÉBENES, M. J. (2006): "Relaciones sociales y envejecimiento saludable". Documento de Trabajo FBBVA 2006 nº 9, 111 pag.; ZUNZUNEGUI, V.; ALVARADO, B.; SER, T.; OTERO, A. (2003): "Social networks, social integration, and social engagement determine cognitive decline in community-dwelling Spanish older adults" Journal of Gerontology: Social Sciences 58B (2), pp. S93-S100; ZUNZUNEGUI MV, BELAND F, OTERO A. (2001): "Support from children, living arrangements, self-rated health and depressive symptoms of older people in Spain". International Journal of Epidemiology , 30(5), pp. 1090-1099

Data and Method

The source of data is a cross-national survey of *Living Conditions of Older Adults in Spain* conducted by the Spanish National Institute for Older Adults (IMSERSO). The survey collects broad information on family composition and social networks, and on different measures of health and functional status, and demographics and socioeconomic characteristics (sees http://www.imsersomayores.csic.es/documentos/estadisticas/encuestas/ecvm/2004/principal/ecvmp04-ficha-tecnica.doc). Our analytic sample consisted of 3,507 community-dwelling individuals aged 65 and older. The analysis was carried out with different logistic regression models to observe the association between the social network, and each one of its components, and health and disability measures, among different sub-populations.

Health measures: Health is measured by the self-perceived health and the disability status. Disability measures up for the development of basic activities of the daily life (ADL), and instrumental activities of the daily life (IADL), by means of the test of Katz and Lawton.

Family and social network: The structural aspects of the social relations measure up using the diversity of the social net. After a confirmatory factorial analysis was constructed a model of measurement of the social network at the old age, defining dominions that organize social links according to role-specific: partner, children, grandsons, brothers and other family members, and friends and neighbours. The characteristics of the social network (n º of members, proximity, frequency of contacts, intimacy and satisfaction) measure up for every tie, which allows to obtain a global indicator of network diversity.

Table 1. Model of measurement of social networks

DIVERSITY	**STRENGTH**	*α Cronbach*	*average*
Sub-scales	*Dimensions*		
Partner	Existence Intimacy Satisfaction	0,93	0,53
Children	Size Proximity Frecuency of personal contacts Intimicy Satisfaction	0,76	0,65
Brothers, sisters, and other family members	Size Proximity Frecuency of personal contacts Intimicy Satisfaction	0,57	0,47
Grandsons	Tamaño Proximity Frecuency of personal contacts	0,76	0,55
Friends, neighbours	Frecuency of personal contacts Satisfaction	0,48	0,55
SOCIAL NETWORK		***0,77***	***2,75***

Preliminary results

- The social network of the Spanish elderly is sustained, fundamentally, in the strength of the ties with their children.
- The wide presence of children among the current generations of Spanish older adults, the great frequency of contacts with them, the satisfaction of the relationships with them, and the intimacy achieved, are the elements that have built the strength of the network between older adults and their children.
- It's remarkable the diversity of social networks of the Spanish elderly –they have an important presence of contacts in all the types of ties–, the high frequency of contacts with grandsons and friends, and the satisfaction with, practically, all the social ties.
- Men show a wider global social network than women, thanks to the presence of a partner. While women show stronger ties with children and grandchildren.
- The social network decreases, in a remarkable way, from 80 years old and over; due to the weakening of the ties affected by the survival of members of a same generation (partner, siblings and other relatives, and friends).
- The older adults with partner are those who show a wider social network, thanks to the presence of a greater diversity of ties. In the case of the widowers, the loss of the partner is compensated, partially, with stronger relationships with children and grandsons. While in the case of the separated and divorced not only the tie gets lost with the partner, but also the established ones with children and grandsons are reduced. The weakest social network is never-married's one, that is also based in ties with members of a same generation, more affected by mortality and health problems.
- The social network is wider in the rural areas than in the urban ones. In the rural, the social networks of the older adults show more bonds with friends, neighbours and other relatives; on the contrary, in the urban areas the social network tilts more on the relationships with children and grandchildren

- To have strong and wide ties with friends and neighbours turns out to be protective as much for men as for women, and so much for young-old- as for the oldest-old, front to adverse health conditions of different nature (from the self-perceived health until serious disability).
- In a social system so familist as the Spanish one, the ties with children and grandchildren are present, practically, in all the cases, being the "more distant" contacts with friends and other relatives those that turn a social network wider and more diverse than others, making differences not only in sources of social support, but also in health.
- Are men those more favoured by a greater diversity of their social networks, specially regarding the ones established outside the home and the immediate family circles
- The existence of a partner is clearly protective front to the disability. The support and the complementarity found in the living together with a partner compensate the problems for the self-accomplishment of the activities of the daily life.

Figure 2. Dimensions of social networks

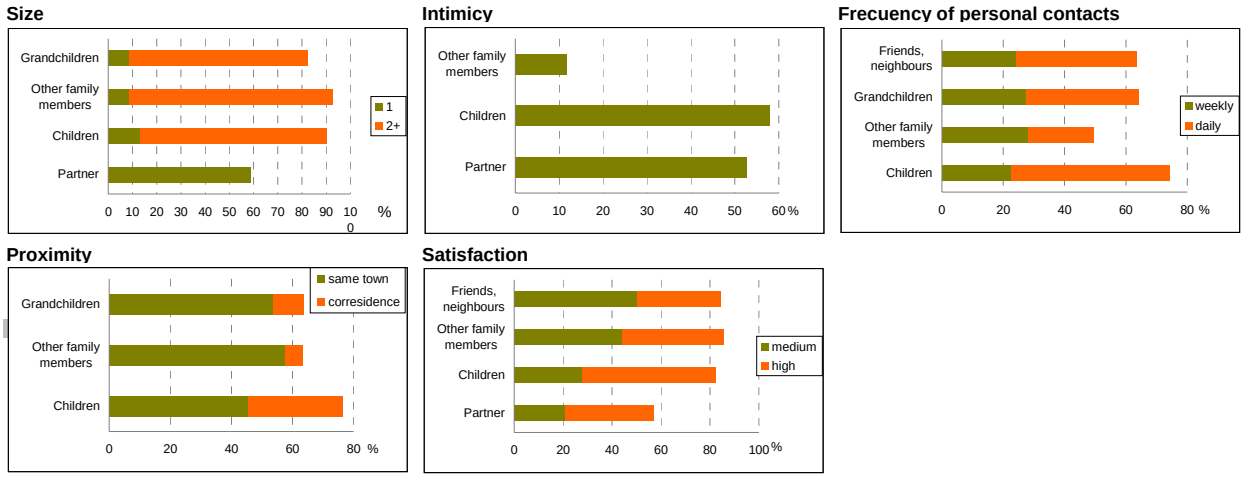


Figure 3. Composition of social networks

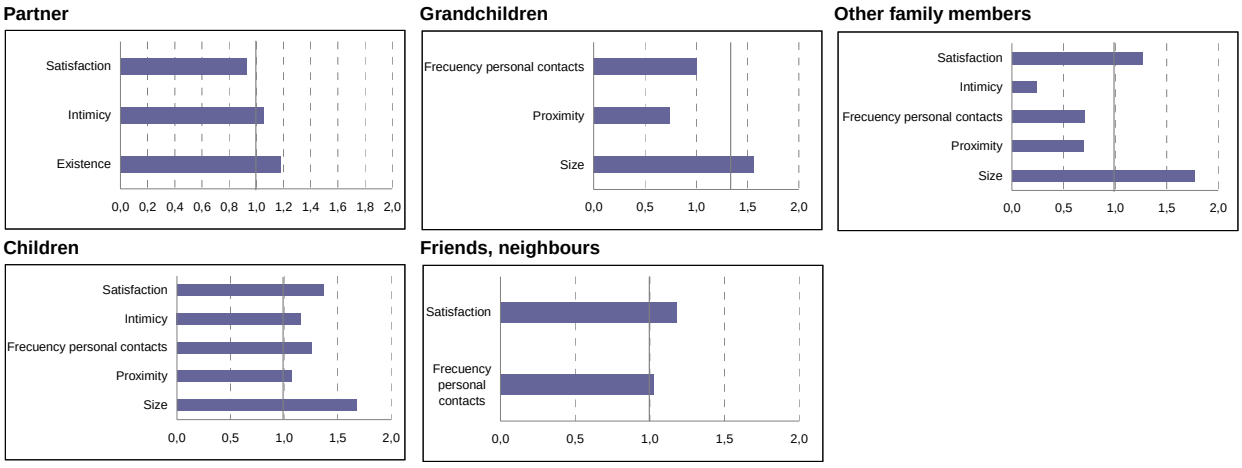


Table 2. Social networks by socio-demographic profile

Scales	Average gender		Sig.
	Men	Women	
Partner	0,72	0,39	0,000
Children	0,63	0,67	0,000
Other family members	0,46	0,47	0,137
Grandchildren	0,53	0,57	0,000
Friends, neighbours	0,57	0,54	0,001
SOCIAL NETWORK	2,92	2,63	0,000

Scales	Average age							Sig.
	65-69	70-74	75-79	80-84	85-89	90-94	95+	
Partner	0,68	0,59	0,54	0,37	0,28	0,11	0,03	0,000
Children	0,66	0,68	0,65	0,62	0,65	0,60	0,58	0,001
Other family members	0,52	0,48	0,48	0,43	0,37	0,28	0,24	0,000
Grandchildren	0,51	0,57	0,57	0,55	0,59	0,54	0,48	0,000
Friends, neighbours	0,60	0,57	0,59	0,49	0,46	0,36	0,26	0,000
SOCIAL NETWORK	2,96	2,89	2,82	2,45	2,37	1,88	1,59	0,000

Scales	Average Marital status					Sig.
	never married	married	divorced	widower	Total	
Partner	0,075	0,884	0,037	0,018	0,53	0,000
Children	0,080	0,676	0,539	0,710	0,65	0,000
Other family members	0,590	0,469	0,477	0,444	0,47	0,000
Grandchildren	0,064	0,569	0,451	0,600	0,55	0,000
Friends, neighbours	0,519	0,577	0,546	0,519	0,55	0,000
SOCIAL NETWORK	1,329	3,176	2,050	2,291	2,75	0,000

Scales	Average educational level			Sig.
	without studies	primary studies	secondary or higher	
Partner	0,492	0,556	0,604	0,000
Children	0,667	0,646	0,623	0,007
Other family members	0,459	0,481	0,461	0,009
Grandchildren	0,580	0,538	0,468	0,000
Friends, neighbours	0,537	0,567	0,589	0,002
SOCIAL NETWORK	2,736	2,788	2,745	0,285

Scales	Average habitat			Sig.
	rural	semi-urban	urban	
Partner	0,576	0,549	0,515	0,019
Children	0,603	0,667	0,659	0,001
Other family members	0,498	0,499	0,454	0,000
Grandchildren	0,459	0,563	0,563	0,000
Friends, neighbours	0,638	0,582	0,533	0,000
SOCIAL NETWORK	2,774	2,861	2,724	0,004

Figure 4. Social network scale distribution by disability status

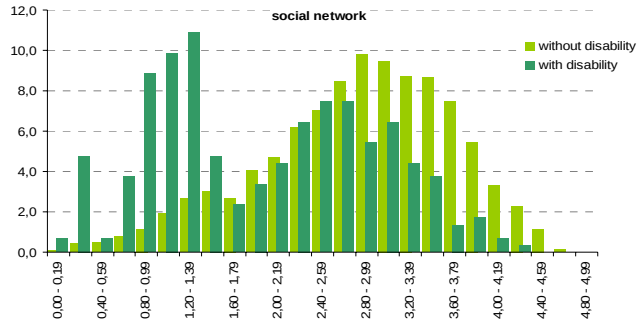


Table 3. Effects of social network scale and components on self-perceived health and disability status (OR)

	Self-perceived health		Disability	
[men]	1,000 **	1,000 **	1,000 **	1,000 **
women	1,883 **	1,852 **	1,976 **	1,868 **
[65-69]	1,000 **	1,000 **	1,000 **	1,000 **
70-74	1,482 *	1,414 *	1,696	1,566
75-79	2,009 **	1,974 **	4,124 **	3,906 **
80-84	2,165 **	2,026 **	7,373 **	6,433 **
85-89	2,216 **	2,016 **	12,772 **	10,551 **
90-94	2,513 *	2,208 *	19,126 **	15,319 **
95+	4,256 *	3,682 *	54,359 **	41,683 **
[never married]	1,000 **	1,000	1,000 **	1,000 **
married	2,124 **	1,381	5,379 **	6,549 **
divorced	1,251	0,945	4,190 **	2,426
widower	1,292	0,880	2,753 **	1,348
[without studies]	1,000 **	1,000 **	1,000 **	1,000 **
primary studies	0,519 **	0,533 **	0,654 **	0,674 *
secondary or higher studies	0,292 **	0,310 **	0,408 **	0,453 *
[rural]	1,000	1,000	1,000	1,000
semi-urban	1,173	1,065	1,157	0,961
urban	1,268	1,107	1,392	1,096
social network	0,694 **		0,395 **	
partner		0,750		0,125 **
children		0,901		0,548
other family members		0,511 *		0,316 **
grandchildren		1,048		1,008
friends		0,385 **		0,193 **

Table 4. Effects of social network scale and components on self-perceived health and disability status (OR), different sub-populations

Self-perceived health	Total population	Gender		Age		Marital status				Habitat		
		men	women	65-79	80+	never married	married	divorced	widower	rural	semi-urban	urban
red social	0,694 **	0,735 *	0,665 **	0,701 **	0,675 **	1,295	0,565 **	1,261	0,833	1,167	0,911	0,584 **
pareja	0,750	1,431	0,548	0,488	2,220	1,277	0,656	1,505	0,880	1,038	0,337	0,771
hijos	0,901	1,197	0,713	0,796	1,215	0,341	0,784	0,965	0,892	1,647	1,232	0,722
familiares	0,511 *	0,311 *	0,527	0,391 **	0,617	2,248	0,120 **	0,036	1,173	0,412	0,503	0,394 **
nietos	1,048	1,466	0,962	1,540	0,477	29,640	0,975	4,589	1,244	1,468	3,064 *	0,833
amigos	0,385 **	0,245 **	0,474 **	0,369 **	0,463 **	0,198	0,390 **	5,488	0,411 **	1,127	0,386 *	0,345 **
Disability												
red social	0,395 **	0,277 **	0,425 **	0,378 **	0,372 **	0,030 **	0,324 **	0,971	0,429 **	0,446 **	0,565 **	0,331 **
pareja	0,125 **	0,074 **	0,225 **	0,047 **	0,409	0,000	0,103 **	1,895	0,628	0,119	0,055 *	0,150 **
hijos	0,548	0,608	0,492	0,960	0,307 *	0,000	0,776	8,140	0,349 *	0,232	1,008	0,469 *
familiares	0,316 **	0,105 **	0,251 **	0,274 *	0,153 **	0,072 *	0,139 **	0,014	0,278 **	0,030 **	0,664	0,189 **
nietos	1,008	1,573	1,014	0,878	1,439	6,243	0,762	28,699	1,291	4,360	2,928	0,797
amigos	0,193 **	0,076 **	0,257 **	0,186 **	0,220 **	0,009 **	0,190 **	0,186	0,244 **	0,652	0,164 **	0,168 **