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Children, social contacts and loneliness: findings from the English Longitudinal Study of Ageing

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Children, social contacts and loneliness among older men and women in England.

Introduction

Studies of older people's views on the elements of life important to them consistently show that high priority is attached to contacts with family and friends (Bowling et al., 2003). Social contacts and social support are also associated with older people's health, quality of life, and receipt of help when needed (see Grundy, 2005; Netuveli and Blane, 2008). Adult children are an important potential source of such contact and support and numerous studies have shown that older parents and their children have frequent contacts and exchanges of support, although the extent of both varies by country, gender, and socio-economic and marital status (Buber and Engelhardt 2008; Furstenberg 2005; Grundy and Shelton 2001; Offer and Schneider 2007; Silverstein, Cong and Li 2006; Zunzunegui, Béland and Otero 2001). These findings imply a number of disadvantages for older childless people but several studies have suggested that childless older people may compensate by forging stronger alternative bonds with other relatives and friends (Gray, 2009; Kendig, 1986; Wenger, Dykstra, Melkas, & Knipsheer, 2007) which, given the importance of friends for self esteem, may even have advantages (see Fiori, Antonucci & Cortina, 2006). Consistent with this, one study of older English and Italian people found that number of children was negatively associated with contacts with non-relatives in women (Tomassini, Glaser & Stuchbury, 2007). Apart from questions about the overall effects of having any children versus none, it is also unclear whether having *more* children, as opposed to any children, brings increasing benefits in terms of contacts or receipt of help as relatively few studies have considered effects of number of children, especially the effects of larger family sizes of four or more children. A further consideration relates to

gender of children and whether apparent benefits of larger family sizes might reflect the associated increased chance of having at least one daughter. Associations between childlessness, number of children and perceived loneliness are also unclear. Although childless people perceive childlessness to be related to a lack of companionship and loneliness (Connidis & McMullin, 1999; Hall-Eston & Mullins, 1999), several studies have found no association between actual parental status or number of children and self-reported loneliness (Hansen, Slagsvold & Moum, 2009; Mullins & Mushel, 1992; Jakobsson & Hallberg, 2005). In terms of receipt of help, several studies have shown that having any children is related to receipt of informal help (Connidis & McMullin, 1999; Dykstra, 1993; Gironde, Lubben & Atchison, 1999; Gray, 2009; Larsson & Silverstein, 2004) and that among parents larger family size is also associated with higher likelihood of receiving help (Hellström, Persson, & Hallberg, 2004; Grundy, 2005) although it is unclear whether there are threshold or ceiling effects or the extent to which these associations are related to the gender composition of families. Finally, although indicators such as contacts with children are often assumed to be indicative of family solidarity and so predictive of provision of practical help if needed, relatively few studies have examined this empirically.

In this paper we use data from the English Longitudinal Study of Ageing to analyse associations between number of children and several aspects of older people's social support including at least weekly face-to-face contact with children, other relatives or friends; self-reported loneliness, and receipt of help. We firstly investigate how number of children is associated with contacts with children, other relatives, and friends to see whether there is evidence that those without children compensate by more often having frequent contact with other relatives and friends. For those with at least one child, we also

investigate whether the probability of frequent social contact increases linearly among parents with two, three and four or more children or whether there are no benefits in terms of the frequency of contacts from having more than one or two children. We also investigate effects of having at least one daughter. We next analyse associations between number of children and reported loneliness. Finally we investigate whether having frequent contact with a child predicts receipt of help from a child, if needed, two years later.

Previous studies have shown associations between socio-economic status and patterns of contact with relatives and friends with groups of lower educational and socio-economic status more often reporting that relatives are their closest friends and also higher levels of contact with relatives (Pahl & Pevalin, 2005; Gray, 2009; Grundy & Murphy, 2006). Social contacts and participation are also known to vary by marital status, to some extent in gender specific ways, (Buber & Engelhardt, 2008; Dean, Kolody, & Wood, 1990; Zhang and Hayward (2001). Finally health is known to be an important influence on both contact with and receipt of support from children (Grundy, 2005). All these factors are also associated with loneliness and other indicators of well-being (Perren, Arber & Davidson, 2003; Pinquart & Sorensen, 2001; Luanaigh & Lawlor, 2008; Avlund, Lund, Holstein & Due, 2004). We therefore control for these factors in the analysis and also explore possible interaction and mediating effects by fitting series of models as described below.

Data and Methods

Sample

We use data from the first and second waves of English Longitudinal Study of Ageing (ELSA). The first wave of ELSA was carried out in 2002-2003 and included men and women then aged 50+ who participated in the Health Survey for England 1998, 1999 or 2001. Sample size was 12,100 participants (response rate 64.3%) in Wave 1, and 9,432 (response rate 78%) in wave 2 which was conducted in 2004-2005. A more detailed description of the ELSA can be found in Marmot et al. (2003), Banks and his colleagues (2006) and online (<http://www.ifs.org.uk/elsa>). The sample in the present study included men and women aged 60+ in Wave 1 who had complete data on number and gender of children in Wave 1, and socioeconomic, marital status, health and social contacts items in Wave 2. Our study sample included only those participants who did not drop out between the waves. Comparison of the distributions of those who dropped out and those who participated in the present study indicated that those who dropped out were older, were more often childless, did not have a daughter, were living alone or with people other than spouse, and had poorer socioeconomic and health status.

Measures at wave 1

Number of children was the total number of all natural children the respondent reported. Five dummy variables were created indicating 0, 1, 2, 3, or 4+ natural living children. A dichotomous variable was created indicating whether the respondent had any daughters (1=one or more daughters, 0=no daughters). Wealth quintiles were calculated using non-pension wealth indicating financial, physical (such as business wealth, land and

jewellery), and housing wealth minus debts. This measure provides a better estimate of economic status in older people than using a measure of income (Banks et al., 2003). Tenure status was measured by a dichotomous variable (1=not homeowner, 0=homeowner). Education was measured using three dummy variables indicating whether respondents had qualifications equivalent to or higher than 'A' levels' (exams taken at around age 18); GSCE or equivalent level qualifications (exams taken at around age 16), or no or lower level qualifications.

Measures at wave 2

In analysis of the full sample four marital status groupings were distinguished (married, single, divorced/separated, and widowed); in analyses restricted to the parous this was dichotomised into married vs. not married. Health and physical functioning were measured using four dichotomised items based on self-reports: General health (1=bad/fair, 0=good), Limiting long-term illness (1=one or more, 0=none), Limitation in activities of daily living, such as dressing and walking across a room (1=one or more, 0=none) and Limitations in instrumental activities of daily living, such as shopping and making a phone call (1=one or more, 0=none).

Three dichotomous items of at least weekly face-to-face contact were created: weekly face-to-face contact with children, weekly face-to-face contact with other relatives, and weekly face-to-face contact with friends (1 = yes, 0 = no). Weekly contact with children at Wave 1 was also coded in the same way and used in the analysis of help received from children at Wave 2.

Loneliness was measured using four items (Huges, Waite, Hawkley, & Cacioppo, 2004) drawn from the ULCA loneliness scale (Russell, 1996). These items measure perceived isolation and relational and social connectedness (e.g. how often do you feel you lack companionship?). Responses were coded on a 3-point scale: hardly ever/never, some of the time, and often. For the purpose of this study, the responses to the four items were dichotomised so that the categories for feeling lonely some of the time and often were combined. After this, a sum of all four items was calculated and a dichotomous measure of loneliness was created (1 = scores 2-4, 0 = scores 0-1).

Analysis of differentials in receipt of help from children was restricted to those who reported receiving help in Wave 2 and so excluded those with no need for help. Respondents were asked whether they received help with instrumental activities of daily living and if so, who provided it (multiple sources of help could be reported). Those who mentioned a child as a helper were coded 1, and otherwise 0.

Analysis

Logistic regression was used to analyse outcomes investigated, all of which were dichotomous, using the Mplus software (Muthén and Muthén 2007). Analyses were carried out separately for men and women and in two sets: for all women and men and for parous women and men only. Four blocks of conceptually related variables were entered in the models. The first block included age and number of children, and for parous women and men, having a daughter. In the second block, wealth, tenure status, and educational level were added. In the third block, health variables were entered, and in the fourth block, marital status.

Results

Weekly face-to-face contacts

For both men and women, at least weekly contact with children, relatives or friends (combined category) was more frequent among parents than among the childless, although the difference between men with four or more children and childless men was not significant (Table 1 and Table 2). Among the parous, number of children was not associated with either weekly contact with relatives or weekly contacts with friends. At least weekly contact with a child or children was positively associated with the number of children among mothers in the first model, but this association disappeared when presence of daughter was added in the second block and weekly face-to-face contact with children was more frequent among those parents who had one or more daughters (Table 3). This association remained even after controlling for socioeconomic, health and marital status. Among mothers, having one or more daughters was also related to more frequent weekly face-to-face contacts with other relatives (results not shown). This association remained after controlling for socioeconomic, marital and health status. Presence of daughter was not associated with weekly face-to-face contacts with friends (results not shown).

Loneliness

Loneliness was less frequent among men with two or more children than childless men. This association however disappeared when marital status was controlled in the model (Table 4). Among parents, number of children and the presence of daughter were not significantly associated with loneliness (results not shown).

Help from children

For both fathers and mothers, weekly contact with children in Wave 1 was associated with the receipt of help from children in Wave 2 (Table 5). This association remained after controlling for number of children, having a daughter, and socioeconomic, health and marital status. Having three or more children compared to one child was also associated with higher odds of receiving help in both fathers and mothers. Having a daughter was related to higher odds for receiving help among mothers only.

Discussion

The results of the present study indicate that number of children was unrelated to loneliness and weekly face-to-face social contacts in older men and women in England. However, the presence of one or more daughters was positively associated with weekly contacts with children in both women and men, and weekly face-to-face contacts with relatives in women. Weekly contacts with children were related to receipt of help from children two years later.

Most previous studies related to availability of children and social contacts have contrasted the childless with all parents or, where taking account of number of children, have treated it as a continuous variable and not taken into account possible non-linear effects. Our results show that in most cases there was no association between number of children and social contacts even in the initial unconstrained model. In two cases, the association was mediated by background factors: Childless men were lonelier than men with two or more children, this seemed largely to be due to differences in marital status. Women with four or more children were more likely to have weekly face-to-face contacts with other relatives than childless women, and this relationship was mediated by socioeconomic status. The results suggest that socioeconomic and marital status may be more powerful determinants of older people's social contacts than fertility history.

Although number of children was not associated with social contacts, the gender of child(ren) was. As expected, older women and men who had one or more living daughters were more likely to have weekly face-to-face contacts with at least one child. In women, the presence of daughter(s) also increased the likelihood of weekly face-to-face contacts with relatives and later receipt of help from children. The result is congruent with previous

findings that compared to sons daughters on average provide more social support and have more contacts with their parents. The fact that having a daughters also increased the likelihood of weekly contacts with other relatives in women may reflect the fact that females are more likely to facilitate transfers between groups (Rashidi & Shanley, 2009), bridging contacts outside of the immediate family.

Weekly contacts with friends was independent of number of children, presence of daughter and most of the background factors. Weekly contact with friends was also the most frequent form of contacts in both women and men. In one previous study (Tomassini et al., 2007), number of children was related to less contacts with non-kin friends but in that study a continuous measure of number of children used.

Weekly contacts with children were strongly related to receipt of help from children two years later. This association turned out to be highly robust: it was independent of number of children, having a daughter, marital, socioeconomic and health status. The results also indicated that those with three or more children were more likely to receive help from children two years later. This is congruent with previous finding that having children or a higher number of children is associated with receipt of help (Connidis & McMullin, 1999; Dykstra, 1993; Girona et al., 1999; Gray, 2009; Hellström et al., 2003; Larsson & Silverstein, 2004).

The results confirmed previous findings that more frequent contacts with children and relatives were related to lower educational levels and also to some extent lower economic status (Gray, 2009; Grundy & Murphy, 2006). Health was also associated with loneliness but to a lesser extent than for social contacts. This may be because

socioeconomic and marital status were already controlled in the models before health status was added.

Limitations of the present study include drop-out between the two waves, which was related to factors investigated and which needs further investigation, and relatively small sample size. Despite these limitation the results highlight the advantage of frequent contacts with children and of higher-order parity for receipt of help from children, but suggest that having more children does not add benefits in terms of contacts and loneliness when socioeconomic and marital status have been taken into account. Presence of daughter promotes social contacts and receipt of help but mostly only among older mothers.

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Table 1. Associations (odds ratios) between number of children and socioeconomic and demographic factors with at least weekly face-to-face contact with relatives (other than children); friends; and children, relatives or friends. with weekly contact with relatives; friends; and children, friends or relatives. Men aged 60+, England 2004-5.

	Relatives (<i>n</i> = 2005)		Friends (<i>n</i> = 2034)		Children/rels or friends ^b (<i>n</i> = 2355)	
	Model 1	Model 4	Model 1	Model 4	Model 1	Model 4
Age	1.01	1.00	0.99	0.98**	0.98***	0.97***
N of children (ref = 0)						
1	1.19	1.18	.098	1.04	1.77***	1.58**
2	1.11	1.16	0.91	1.04	1.84***	1.65**
3	1.39	1.43	0.83	0.93	1.81***	1.62**
4+	1.43	1.51	0.80	0.93	1.35	1.34
Wealth quintile (ref = 1, highest)						
2		1.17		0.87		0.80
3		1.16		0.99		0.93
4		1.64**		1.04		0.88
5 (lowest)		1.29		0.85		0.77
Not home owner		0.84		0.97		0.91
Education (ref = No qualification)						
A levels +		0.45***		0.90		0.76*
GSCE level		0.89		0.93		1.11
Marital status (ref = Married)						
Single		1.00		1.55		0.73
Divorced		0.94		2.05**		0.82
Widowed		1.20		2.16***		1.17
Poor general health		0.98		1.07		0.89
Long-term illness		0.86		0.88		0.85
ADL limitation		1.05		0.84		0.91
IADL limitation		1.09		0.93		0.84

*** $p < 0.05$, ** $p < 0.01$, * $p < 0.05$, ^b at least weekly face to face contact with a child, relative or friend

Table 2. Associations (odds ratios) between number of children and socioeconomic and demographic factors with at least weekly face-to-face contact with relatives (other than children); friends; and children, relatives or friends. Women aged 60+, England 2004-5.

	Relatives (<i>n</i> = 2454)		Friends (<i>n</i> = 2489)		Child/rel or friend (<i>n</i> = 2961)	
	Model 1	Model 4	Model 1	Model 4	Model 1	Model 4
Age	0.99	0.97***	1.01	0.99	.971***	0.97***
N of children (ref = 0)						
1	1.32	1.09	0.93	0.98	1.632**	1.71**
2	1.19	1.07	0.82	0.92	1.624***	1.69***
3	1.22	1.07	0.82	0.90	1.578**	1.65**
4+	1.42*	1.18	.092	1.06	1.506**	1.76**
Wealth quintile (ref = 1, highest)						
2		1.04		1.06		1.08
3		1.27		1.22		1.36*
4		1.11		1.16		1.22
5 (lowest)		0.98		0.91		0.79
Not home owner		1.38**		1.01		0.93
Education (ref = No qualification)						
A levels +		0.47***		0.92		0.81
GSCE level		0.67***		0.98		1.02
Marital status (ref = Married)						
Single		0.73		1.78*		1.169
Divorced		0.86		1.59**		0.76
Widowed		1.11		2.20***		1.20
Poor general health		1.14		0.88		0.86
Long-term illness		1.05		1.04		0.94
ADL limitation		1.89		0.92		0.85
IADL limitation		1.19		0.95		0.84

*** $p < 0.05$, ** $p < 0.01$, * $p < 0.05$, ^b at least weekly face to face contact with a child, relative or friend

Table 3. Associations (odds ratios) between number of children and socioeconomic and demographic factors with at least weekly face-to-face contact with children, fathers and mothers aged 60+, England 2004-5.

	Men (<i>n</i> = 1706)				Women (<i>n</i> = 2058)			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Age	1.00	1.00	0.99	0.99	1.01	1.01*	1.00	1.00
N of children (ref = 1)								
2	1.01	0.93	0.98	0.97	1.08	0.98	1.05	1.07
3	1.25	1.10	1.13	1.12	1.37*	1.18	1.22	1.24
4+	1.08	0.93	0.96	0.95	1.57**	1.38	1.31	1.33
Daughter		1.51**	1.51**	1.51***		1.49**	1.52***	1.52***
Wealth quintile (ref = 1, highest)								
2			1.23	1.22			0.98	0.97
3			1.41*	1.41*			1.58**	1.52
4			1.82***	1.82***			1.52**	1.46**
5 (lowest)			1.40	1.40			1.42*	1.35*
Not home owner			0.76	0.77			0.98	0.95
Education (ref = No qualification)								
A levels +			0.52***	0.52***			0.46***	0.46***
GSCE level			0.82	0.82			0.65***	0.65***
Poor general health			1.06	1.07			1.11	1.12
Long-term illness			0.78	0.78			0.91	0.91
ADL limitation			1.02	1.01			1.11	1.11
IADL limitation			1.27	1.27			0.86	0.86
Married				1.04				0.85

*** $p < 0.05$, ** $p < 0.01$, * $p < 0.05$

Table 4. Associations (odds ratios) between number of children and socioeconomic and demographic factors with reported loneliness, men and women aged 60+, England 2004-5.

	Men (<i>n</i> = 2032)				Women (<i>n</i> = 2460)			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Age	1.03***	1.03***	1.02	1.01	1.03***	1.03***	1.02*	1.00
N of children (ref = 0)								
1	0.73	0.77	0.77	0.96	0.96	0.88	0.87	0.87
2	0.56**	0.62**	0.60**	0.87	0.85	0.82	0.82	0.90
3	0.52**	0.56**	0.57**	0.72	0.92	0.84	0.83	0.88
4+	0.69*	0.60**	0.57**	0.79	1.00	0.82	0.80	0.89
Wealth quintile (ref = 1, highest)								
2		1.34*	1.28	1.24		1.57**	1.50**	1.36*
3		1.25	1.19	1.13		1.71***	1.63***	1.37*
4		2.01***	1.79***	1.68**		2.39***	2.06***	1.68**
5 (lowest)		2.74***	2.44***	2.35***		2.35***	1.94***	1.54*
Not home owner		1.52**	1.38*	1.14		1.34*	1.25	1.10
Education (ref = No qualification)								
A levels +		0.77*	0.85	0.90		0.87	0.90	0.84
GSCE level		0.84	0.87	0.91		0.93	0.92	0.92
Poor general health			1.62***	1.61**			1.41**	1.55**
Long-term illness			0.99	1.04			1.34**	1.33**
ADL limitation			1.51**	1.60**			1.41**	1.37**
IADL limitation			1.46**	1.48**			1.21	1.19
Marital status (ref = Married)								
Single				2.89***				1.70*
Divorced				2.17***				2.49***
Widowed				3.25***				2.67***

*** $p < 0.05$, ** $p < 0.01$, * $p < 0.05$

Table 5. The association between weekly contact with children in Wave 1 and help received from children in Wave 2 (odds ratios) in parous men and women aged 60+. England 2004-5.^a

	Men (<i>n</i> = 1066)				Women (<i>n</i> = 1665)			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Age	1.11***	1.08***	1.08***	1.06***	1.11***	1.10***	1.09***	1.06***
Weekly contact with child	2.63***	2.68***	2.51***	2.46***	2.92***	2.91***	3.18***	3.26***
N of children (ref = 0)								
2	1.21	1.19	1.44	1.63	1.07	0.95	1.19	1.27
3	1.64	1.72	2.30*	2.77**	1.63*	1.48	1.65*	1.78*
4+	3.23***	3.17**	3.03**	3.65***	2.91***	2.59***	2.76***	3.19**
Daughter		0.97	0.88	0.85		1.37	1.43*	1.55*
Wealth quintile (ref = 1, highest)								
2			1.53	1.54			1.44	1.24
3			1.61	1.52			1.39	1.09
4			1.32	1.14			2.01**	1.34
5 (lowest)			2.07	1.97			2.34**	1.50
Not home owner			1.61	1.36			1.27	1.10
Education (ref = No qualification)								
A levels +			0.63	0.71			0.87	0.80
GSCE level			1.04	1.02			0.60**	0.61**
Poor general health			1.46	1.38			1.50*	1.59**
Long-term illness			2.87**	2.20*			2.37***	1.98***
ADL limitation			1.42	1.30			1.31	1.19
IADL limitation			7.00***	5.33***			4.78***	4.13***
Married				0.39***				0.26***

^a Among those who needed help in instrumental activities of daily living, *** $p < 0.05$, ** $p < 0.01$, * $p < 0.05$