Psychol Health Med. Author manuscript; available in PMC 2015 December 31.

Published in final edited form as:
Psychol Health Med. 2015 ; 20(3): 332–344. doi:10.1080/13548506.2014.940354.

Loneliness, Social Relations and Health and Wellbeing in Deprived Communities

Ade Kearns[1], **Elise Whitley**[2], **Carol Tannahill**[3], and **Anne Ellaway**[2]

[1]Urban Studies, School of Social and Political Sciences, University of Glasgow

[2]CSO/MRC Social and Public Health Sciences Unit, University of Glasgow

[3]Glasgow Centre for Population Health

Abstract

There is growing policy concern about the extent of loneliness in advanced societies, and its prevalence among various social groups. This study looks at loneliness among people living in deprived communities, where there may be additional barriers to social engagement including low incomes, fear of crime, poor services and transient populations. The aim was to examine the prevalence of loneliness, and also its associations with different types of social contacts and forms of social support, and its links to self-reported health and wellbeing in the population group. The method involved a cross-sectional survey of 4,302 adults across 15 communities, with the data analysed using multinomial logistic regression controlling for sociodemographics, then for all other predictors within each domain of interest. Frequent feelings of loneliness were more common among those who: had contact with family monthly or less; had contact with neighbours weekly or less; rarely talked to people in the neighbourhood; and who had no available sources of practical or emotional support. Feelings of loneliness were most strongly associated with poor mental health, but were also associated with long-term problems of stress, anxiety and depression, and with low mental wellbeing, though to a lesser degree. The findings are consistent with a view that situational loneliness may be the product of residential structures and resources in deprived areas. The findings also show that neighbourly behaviours of different kinds are important for protecting against loneliness in deprived communities. Familiarity within the neighbourhood, as active acquaintance rather than merely recognition, is also important. The findings are indicative of several mechanisms that may link loneliness to health and wellbeing in our study group: loneliness itself as a stressor; lonely people not responding well to the many other stressors in deprived areas; and loneliness as the product of weak social buffering to protect against stressors.

Keywords

loneliness; social contacts; social support; health and wellbeing; deprived communities

Corresponding Author: Ade Kearns, Urban Studies, University of Glasgow, 25 Bute Gardens, Glasgow G12 8RS ade.kearns@glasgow.ac.uk Tel. 00 44 (0)141 330 5049 Fax. 00 44 (0)141 330 4983.

Europe PMC Funders Author Manuscripts

Introduction

As more people live alone and longer, concern is growing about the prevalence of loneliness. Loneliness is 'clustered around the 30-35% mark' among older people in the UK (Age UK 2011), is increasing among younger people, and a prevalence of 45% has been reported in a general UK population survey (Griffin 2010). Increased loneliness is associated with an increased risk of health problems, including: mental disorders (Griffin 2010); negative effects on the immune and cardiovascular system (Murberg 2004), including chronic loneliness being associated with raised cortisol levels (Gibson 2010); and health damaging behaviours such as overeating, reliance on alcohol (Lauder et al. 2006; Cacioppo and Patrick 2008) and reduced physical activity (Hawkley at al 2009).

Three elements involved in loneliness can be distinguished: feelings; circumstances; and responses. We interpret loneliness as the *feeling* of being on one's own associated with not having sufficient intimate and/or other contacts, or contacts of the right type. Hawthorne (2008) suggests, 'it is the quality of relationships that matters rather than the quantity' (Hawthorne 2008). The second element (circumstances) describes an individual's social contacts and social support both in an everyday sense (who one sees, talks to etc.) and as a latent resource (knowing who can be relied upon for help or support). Thirdly, loneliness is a consequence of how people cope with, and respond to, their social situation. This response may be influenced by other circumstances affecting people's mood, emotional disposition or mental health at a particular point in their lives, such as recent life events, the opportunities or choices available to them, or the quality of the residential environment in which they live (Clark et al. 2008).

Past research has found higher rates of loneliness in deprived urban areas (Scharf et al 2004), and this is where our particular interest lies. A small study of older people in four disadvantaged communities found higher levels of social contact and strong feelings of community attachment to be associated with lower feelings of loneliness (Beech and Murray 2013). Others have found that living in a deprived area adds barriers to social engagement. These include low incomes, poor or disjointed services, and fear of crime (Barnes et al. 2006). A further factor may be the negative effects of poor neighbourhood quality upon mental wellbeing (Bond et al. 2012). Lastly, many deprived areas are transient places with high residential turnover, which may adversely affect residents' ability to form social connections and an attachment to place (Livingston et al. 2010).

We sought to address the following questions:

- How prevalent are feelings of loneliness among people living in deprived areas?
- Are feelings of loneliness associated with reported social contacts; and if so, of what types and at what levels of frequency?
- Are feelings of loneliness associated with available social support; and if so, of what types and at what levels?
- Are feelings of loneliness associated with self-reported health and wellbeing?

Methods

Study Location and Sample

The data come from a random stratified sample of adult householders living in 15 communities across Glasgow, forming part of a study of the effects of regeneration activity upon health and wellbeing (Egan et al. 2010). All the study communities are multiply deprived, with many households dependent on income-related benefits (Walsh 2008). The survey involved face-to-face interviews carried out in spring/summer 2011. A 45% response rate was achieved, with 4,302 completed interviews conducted with householders aged 16 and over. Due to missing values on some variables, our multivariate analyses are based on between 3,927 (91.3%) and 4,082 (94.9%) respondents.

Measures

Loneliness—Respondents were asked how often they had been feeling lonely over the last two weeks: ‘all of the time’, ‘often’, ‘some of the time’, ‘rarely’, or ‘never’ (similar to the question in the recent UK-wide survey (Griffin 2010) and to that used in a survey in the West of Scotland (Ellaway et al. 1999)). To mirror the UK wide survey, responses were grouped into three categories: all of the time or often (‘frequent loneliness’); sometimes (‘occasional loneliness’); rarely or never (‘not lonely’).

We considered three domains that might have an influence upon feelings of loneliness. Wherever possible we constructed three categories for the explanatory variables ranging from ‘good’ through ‘bad’ to give a logical progression and to enable us to compare their relative impact upon loneliness. We used approximate tertiles where this was feasible, and otherwise made the categories as equally sized as possible while maintaining meaningful interpretation.

Social contacts—Respondents were asked how often they met up with relatives and friends, and how often they spoke to their immediate neighbours: most days; at least once a week; monthly or less. Those who had regular contact with relatives and friends were further asked whether the people they met lived locally or not. To explore levels of familiarity with others living nearby, respondents were asked how many of the people in their neighbourhood they knew: most or many; some; very few or no-one; and also the extent to which they stopped to talk to people in the neighbourhood: a great deal; a fair amount; not very much or not at all.

Social support—We inquired about practical, financial and emotional support, asking respondents how many people – not counting those people they lived with – they felt they could ask for help: to go to the shops for you if you are unwell; to lend you money to see you through the next few days; to give you advice and support in a crisis. Responses were categorised as: more than two; one or two; none (including those said they didn’t know, or wouldn’t ask anyone).

Mental health and wellbeing—To measure mental wellbeing we used the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS), which has good psychometric properties

(Tennant et al. 2007) and is used in the Scottish Health Survey. Its 14 items ask about feelings over the past two weeks and cover: positive affect (feelings of optimism, cheerfulness, relaxation); positive functioning (energy, clear thinking, self-acceptance, personal development, competence and authority); and relationships with others. Responses were summed to a scale from 14-70, with higher scores indicating higher wellbeing. We divided the sample into low, medium and high mental wellbeing on the basis of tertiles of the sample distribution.

We used three measures of mental health and mental health problems. First, we calculated SF-12 mental health scores, from 0 to 100 (Ware et al. 2005) dividing the scores into tertiles for analysis purposes[1]. Second, respondents were asked if they had experienced stress, anxiety or depression regularly over a period of twelve months or more. We divided respondents into those with no such problems, those with problems, and those whose problems had worsened. Third, we asked if participants had spoken to a GP in the past twelve months about a mental health or emotional problem, including issues related to anxiety, depression or nerves.

Lastly, we identified those in the sample who reported that they had a long-standing illness – a category which will include mental health as well as physical health problems.

Confounding variables—All analyses were adjusted for: sex, age (<40, 40-64, 65+), household type (adult-only household headed by a single adult, adult-only household headed by a cohabiting couple, older single adult (aged 65+), older cohabiting couple (one aged 65+), single parent family with dependent children, two parent family with dependent children), employment status (in work, training or education; unemployed; long-term sick; looking after the home; retired), education (any qualifications, none), long-standing illness (yes, no) - except for the analysis of long-standing illness as an outcome, and citizenship (British, non-British). The last adjustment was included because some study communities had served as reception areas for asylum seekers, and previous research indicated that being a migrant was predictive of loneliness (Hawthorne 2008).

Analyses

We used multinomial (polytomous) logistic regression to explore the association(s) of loneliness with social contact, social support and health and wellbeing variables. Respondents who reported being ‘rarely/never’ lonely formed the baseline comparison group. Separate odds ratios (OR) and 95% confidence intervals (CI) were calculated for respondents who reported being ‘sometimes’ lonely or ‘often/always’ lonely. Two sets of analyses were conducted in each of the three domains: social contact, social support and health and wellbeing. First, univariable analyses were undertaken, in which the impact of each aspect of the domain on loneliness was considered separately; second, multivariable analyses considered the simultaneous impact of all predictor variables within the same domain. Both sets of analyses controlled for confounders and this is reflected in the results that follow.

[1]Both WEMWBS and SF-12 include questions about states that might be affected by loneliness, but do not include questions specifically about loneliness.

Results

Patterns of loneliness

Two-in-five respondents reported loneliness - lower than the 45% rate found in a UK-wide survey (Griffin 2010). However, rates of frequent loneliness were higher in our sample for men (17.0% vs 11%) and women (14.9% vs 10%).

Loneliness was most common among people living alone or with long-term health conditions (Table 1). A quarter of those below retirement age living alone experienced frequent loneliness, as did one-in-five of those over retirement age living alone. Nearly a third of respondents of working age who described themselves as long-term sick or disabled without a job also experienced frequent loneliness. Middle aged people and those with no qualifications also reported more loneliness than others.

Loneliness and social contacts

All five measures of social contact were associated with feelings of loneliness. Those with the least social contact were approximately 50% more likely to report occasional loneliness, and around two-and-a-half times more likely to report frequent loneliness, than those with the highest levels of social contact of each type (Table 2). When all forms of social contact were considered simultaneously, frequency of contact with family and with immediate neighbours showed the strongest associations with loneliness. The greatest odds for feeling often or always lonely were for those with only monthly (or less frequent) contact with family (OR 1.90, 95% CI 1.45-2.50) or immediate neighbours (OR 1.61, 95% CI 1.19-2.18). Contact with friends was more weakly associated with loneliness (OR 1.35, 95% CI 1.02-1.80). Further analysis (not shown) indicated that it made no difference to feelings of loneliness whether family and friend contacts lived locally or elsewhere.

Respondents who had little (‘not much’ or ‘never’) verbal contact with other people in the neighbourhood were 40% more likely to report occasional or frequent loneliness than those who stopped to talk to people in the neighbourhood ‘a great deal’ (OR 1.38, 95% CI 1.01-1.88). Familiarity (‘know people in the neighbourhood’) was the variable most weakly associated with loneliness (OR 1.08, 95% CI 0.83-1.40), suggesting that simply knowing who people in the neighbourhood are is not protective against feelings of loneliness, once other forms of contact are accounted for.

Loneliness and social support

All three forms of social support were associated with loneliness (Table 3). Respondents without social support were 50-80% more likely to feel lonely occasionally and 50-110% more likely to feel lonely frequently than those who had several sources of social support available to them. When all forms of social support were taken into account simultaneously, the absence of practical support was found to be associated with frequent loneliness (OR 1.54, 95% CI 1.07-2.22), as was a lack of emotional support (OR 1.68, 95% CI 1.17-2.42). Financial support was not associated with loneliness in the multivariable model. The results suggest that knowing there is someone to turn to for practical help, and having someone to talk to in a crisis may be protective against frequent feelings of loneliness.

Loneliness and health and wellbeing

Respondents with the worst mental health and wellbeing (on four measures) were between three and five times more likely to report occasional loneliness and three to six times more likely to report frequent loneliness (Table 4). The association with long-standing illness was much weaker. When all five health and wellbeing measures were taken into account simultaneously, two of the measures - long-standing illness and visiting the GP for mental health reasons - no longer showed strong associations with frequent loneliness. The remaining mental health measures were more strongly associated with frequent feelings of loneliness than the wellbeing measure. Respondents in the lowest tertile on the SF-12 mental health score, were twice as likely to feel occasional loneliness (OR 2.41, 95% CI 1.86-3.12) and four times as likely to feel frequent loneliness (OR 4.35, 95% CI 3.22-5.88) as those with the best SF-12 scores. Respondents who reported long-term (a year or more) problems with stress, anxiety or depression were almost twice as likely to feel occasional loneliness (OR 1.80, 95% CI 1.35-2.40) and, if the problem had worsened, almost twice as likely to feel frequently lonely (OR 1.82, 95% CI 1.25-2.64) as those without such a condition.

Discussion

Our findings enable us to reflect on three sets of issues: the nature of loneliness in deprived areas; the role of neighbouring and the neighbourhood in offering psychological benefits and preventing loneliness; and the pathways that might connect loneliness to mental health and wellbeing outcomes.

We have found what has been termed *state loneliness* (current and immediate feelings of loneliness) (Jones 1987) to be common among residents of deprived areas: two in five of our sample reported feelings of loneliness in the past fortnight, including one-in-six who experienced frequent loneliness (‘often’ or ‘always’). The associations between social contact, social support and loneliness throw light on what have been termed the ‘situational determinants of loneliness’ (Heinrich and Gullone 2006) for people in deprived areas. They indicate that *situational loneliness* (Young 1982) can exist without being triggered by a crisis, transition or disruption, and is related to the possibility of contact with others, particularly family and neighbours. In the case of deprived areas, these possibilities for contact can be affected by such things as the structures of buildings and streets, the provision of local amenities, territorial boundaries, residential turnover, and area reputations (Evans et al. 2003; Sampson 1988; Livingston et al 2010).

Others have made a distinction between: ‘neighbouring’, comprising social interaction with others in close residential proximity, including greeting; and ‘neighbourliness’ in the form of positive neighbouring (Buonfino and Hilder 2010). We found that both forms of neighbourly behaviour may be important for preventing loneliness. The likelihood of feeling lonely was lower for those who had contact with immediate neighbours on most days, suggesting that neighbourhood conditions that support high levels of contact, even if casual and fleeting, are beneficial. Loneliness was also lower for those who had sources of practical support. That loneliness was higher among those with no sources of emotional support available in times of crisis further suggests that a third form of neighbourliness, as a latent resource people can rely on if needs be, can help support feelings of connectedness and protect against

loneliness. Social capital within deprived neighbourhoods may thereby offer psychological health benefits as well as contributing to social cohesion.

Further, whilst the neighbourhood is constituted of the familiar and predictable (Kearns and Parkinson 2001), familiarity operates in a particular way in relation to loneliness. It was familiarity as active acquaintance - in terms of being able to stop and talk to people in the neighbourhood - that was associated with fewer feelings of loneliness, not familiarity as merely identity or recognition of others.

Past research has found perceived social connectedness and feelings of loneliness to be associated with physical health outcomes (Uchino et al. 1996). We have shown an association between feelings of loneliness and mental health and wellbeing. Our findings are consistent with several of the proposed mechanisms for the link between loneliness and health (Cacioppo and Hawkley 2003), including that loneliness is itself a stressor that produces negative affect, with higher levels of anxiety and perceived stress (Cacioppo et al. 2000). In our study, those who reported a worsening mental health problem were five times more likely to feel frequently lonely than those without such a problem.

Lastly, the associations between loneliness and social contact and social support on the one hand, and between loneliness and health and wellbeing on the other, are consistent with an appreciation of the importance of social buffering to dealing with stressors (Cohen and Wills 1985). Social buffering may be particularly important to groups living in deprived areas, where stressors include poverty, unstable family circumstances, and crime, safety and antisocial behaviour issues in the neighbourhood.

Our findings suggest that social regeneration should form a stronger component within area renewal programmes, so that opportunities might be created for residents to engage with each other, form ties of acquaintance and common interest, and offer each other social support.

Strengths and Limitations

Our focus on people living in deprived areas can be seen as both a strength and a limitation. This is a group with limited resources whose quality of life is greatly affected by where they live, so the findings are not generalizable to those living in other places, who may have greater mobility and resources to enrich their lives beyond where they live.

We have used a single item measure of loneliness, as in other UK studies, but unlike multi-item scales such as the UCLA scale (Russell et al 1978). Multi-item scales extend beyond the state itself (Russell 1996) to incorporate dimensions such as relationship deficits and wellbeing, which we wished to examine in association with loneliness.

The survey response rate was less than 50%, but this is not untypical of research in deprived areas (e.g. the British Crime Survey reports lower response rates in inner city estates, Tipping et al 2010). We consider the response rate may limit the generalizability of our reports on levels of loneliness among different groups, but is unlikely to affect our key findings on associations with social and health & wellbeing variables.

Europe PMC Funders Author Manuscripts

Our data are cross sectional, and it is possible that our analysis has picked up an underlying negative response set or that the findings reflect a reverse causality, i.e. that pre-existing loneliness influenced people's levels of social contact and support. The latter possibility may be lessened by the fact that we asked about recent (rather than long-term) feelings of loneliness.

Acknowledgement

This research was conducted as part of the Glasgow Community Health and Wellbeing (GoWell) Research and Learning Programme (www.gowellonline.com). GoWell is a collaborative partnership between the Glasgow Centre for Population Health, the University of Glasgow and the Medical Research Council Social and Public Health Sciences Unit, and is sponsored by Glasgow Housing Association (Wheatley Group), the Scottish Government, NHS Health Scotland and NHS Greater Glasgow and Clyde.

References

Age, UK. Loneliness and Isolation: Evidence Review. Age UK; London: 2011.

Barnes, M.; Blom, A.; Cox, A.; Lessof, C. The social exclusion of older people: evidence from the first longitudinal study of ageing (ELSA). Office of the Deputy Prime Minister; London: 2006.

Beech R, Murray M. Social engagement and healthy ageing in disadvantaged communities. Qual in Ageing and Older Adults. 2013; 14(1):12–24.

Bond L, Kearns A, Mason P, Tannahill C, Egan M, Whitley E. Exploring the relationships between housing, neighbourhoods and mental wellbeing for residents of deprived areas. BMC Public Health. 2012; 12(48) doi: 10.1186/1471-2458-12-48.

Buonfino, A.; Hilder, P. Neighbouring in contemporary Britain. The Young Foundation; London: 2010.

Cacioppo, JT.; Patrick, B. Loneliness: human nature and the need for social connection. W. W. Norton & Company; New York: 2008.

Cacioppo JT, Hawkley LC. Social isolation and health, with an emphasis on underlying mechanisms. Perspect Biol Med. 2003; 46:S39–S52. [PubMed: 14563073]

Cacioppo J,T, et al. Lonely traits and concomitant physiological processes: the MacArthur Social Neuroscience Studies. Int J Psychophysiol. 2000; 35:143–54. [PubMed: 10677643]

Clark C, Myron R, Stansfeld S,A, Candy B. A systematic review of the evidence on the effect of the built and physical environment on mental health. Jnl of Public Ment Health. 2008; 6(2):14–27.

Cohen S, Wills T,A. Stress, social support, and the buffering hypothesis. Psychol Bull. 1985; 98:310–57. [PubMed: 3901065]

Egan M, Beck S, Bond L, Coyle J, Crawford F, Kearns A, Lawson L, Mason P, Tannahill C, et al. Protocol for a mixed methods study investigating the impact of investment in housing, regeneration and neighbourhood renewal on the health and wellbeing of residents: the GoWell programme. BMC Medical Res.Methodol. 2010; 10:41.

Ellaway A, Wood S, Macintyre S. Someone to talk to? The role of loneliness as a factor in the frequency of GP consultations. Br.Jnl of Gen. Pr. 1999; 49:363–367.

Evans G, Wells N,M, Moch A. Housing and mental health: a review of the evidence and a methodological and conceptual critique. Jnl of Soc. Issues. 2003; 59(3):475–500.

Gibson, L. The nature of loneliness. University of Chicago Magazine; Nov-Dec. 2010 http://magazine.uchicago.edu/1012/features/the-nature-of-loneliness.shtml

Griffin, J. The Lonely Society?. The Mental Health Foundation; London: 2010.

Hawkley L,C, Thisted R,A, Cacioppo J,T. Loneliness predicts reduced physical activity: cross-sectional and longitudinal analyses. Health Psychol. 2009; 28(3):34–363.

Hawkley L,C, Burleson M,H, Bertson G,C, Cacioppo J,T. Loneliness in everyday life: cardiovascular activity, psychological context, and health behaviours. J Pers Soc Pschol. 2003; 85(1):10–120.

Hawthorne G. Perceived social isolation in a community sample: its prevalence and correlates with aspects of of peoples' lives. Soc Psychiatry Psychiatr Epidemiol. 2008; 43(2):140–50. [PubMed: 17994175]

Heinrich L,M, Gullone E. The clinical significance of loneliness: a literature review. Clin Psychol Rev. 2006; 26:695–718. [PubMed: 16952717]

Jones W,H. Research and theory on loneliness: a response to Weiss' reflections. Jnl of Soc Beh and Pers. 1987; 2(2):27–30.

Kearns A, Parkinson M. The significance of neighbourhood. Urban Stud. 2001; 38(12):2103–2110.

Lauder W, Mummery K, Jones M, Caperchione C. A comparison of health behaviours in lonely and non-lonely populations. Psychol Health Med. 2006; 11:233–245. [PubMed: 17129911]

Livingston M, Bailey N, Kearns A. Neighbourhood attachment in deprived areas: evidence from the North of England. Jnl of Hous.and the Built Env. 2010; 25(4):409–427.

Murberg T,A. Long-term effect of social relationships on mortality in patients with congestive heart failure. Int J Psychiatry Med. 2004; 34:207–217. [PubMed: 15666956]

Russell D. UCLA Loneliness Scale (Version 3): reliability, validity, and factor structure. Journal of Personality Assessment. 1996; 66(1):20–40. [PubMed: 8576833]

Russell D, Peplau LA, Ferguson ML. Developing a measure of loneliness. Journal of Personality Assessment. 1978; 42:290–294. [PubMed: 660402]

Sampson R. Local friendship ties and community attachment in mass society. American Sociological Review. 1988; 55(5):766–779.

Scharf, T.; Philipson, C.; Smith, AE. Poverty and social exclusion: growing older in deprived urban neighbourhoods. In: Holland, C., editor. Growing Older: Quality of Life in Old Age. Open University Press; Buckingham: 2004. p. 81-106.

Tennant R, Hiller L, Fishwick R, et al. The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): development and UK validation. Health and Qual of Life Outcomes. 2007; 5:63.

Tipping, S.; Hussey, D.; Wood, M.; Hales, J. British Crime Survey: Methods Review 2009 Final Report. NatCen; London: 2010.

Uchino B,N, Cacioppo J,T, Kiecolt-Glaser K. The relationship between social support and physiological processes: a review with emphasis on underlying mechanisms and implications for health. Psychol Bull. 1996; 119:488–531. [PubMed: 8668748]

Walsh, D. Health and wellbeing in Glasgow and the GoWell Areas – deprivation based analyses. GCPH; Glasgow: 2008.

Ware, JE.; Koninski, M.; Turner-Bowker, D,M.; Gandek, B. How to score version two of the SF-12 health survey. Quality Metric Incorporated; Lincoln, RI: 2005.

Young, J,E. Loneliness, depression and cognitive therapy: theory and application. In: Peplau, LA.; Perlman, D., editors. Loneliness: a sourcebook of current theory, research and therapy. Wiley; New York: 1982. p. 379-405.

Europe PMC Funders Author Manuscripts

Table 1

Loneliness by socio-demographic characteristics of deprived area residents

	n	Prevalence of Reported Loneliness (%)			*P*
		Rarely/never	Sometimes	Often/always	
Sex:					
Male	1,728	61.2	21.8	17.0	
Female	2,474	59.9	25.2	14.9	*0.02*
Age group:					
<40 years	1,450	65.3	21.2	13.5	
40-64	1,782	56.2	26.0	17.8	
65+	951	60.8	23.7	15.6	*<0.001*
Household type:					
Adult, single[1]	998	44.6	31.0	24.5	
Adult, cohabiting[2]	861	66.7	20.8	12.5	
Older, single[3]	582	52.8	28.2	19.1	
Older, cohabiting[4]	400	75.0	15.3	9.8	
Single parent family[5]	677	58.5	28.2	13.3	
Two parent family[6]	610	77.5	12.8	9.7	*<0.001*
Employment status:					
Working, training, educ.	1,170	72.1	17.7	10.2	
Unemployed	887	56.0	28.2	15.8	
Long-term sick	587	38.0	30.5	31.5	
Looking after home	409	64.6	21.8	13.7	
Retired	1,108	62.6	23.7	13.8	*<0.001*
Education:					
No qualifications	2,278	58.3	25.1	16.6	
Any qualifications	1,926	62.9	22.3	14.8	*0.01*
Long-standing illness, disability or infirmity:					
No	2,699	66.0	21.3	12.7	
Yes	1,487	50.6	28.2	21.2	*<0.001*
Migrant status:					
British	3,570	59.8	24.2	16.0	
Non-British	634	64.4	21.5	14.2	*0.09*

[1] Adult-only household headed by a single adult.

[2] Adult-only household headed by a couple.

[3] Older, single-person household (aged 65+).

[4] Older person household comprising a couple (at least one aged 65+).

[5] Household with dependent children (<16 years) headed by a single adult.

[6] Household with dependent children (<16 years) headed by a couple.

Table 2

Odds ratios (95% CI) for loneliness according to reported social contacts

	n	% lonely		Adjusted for demographics[a]		Adjusted for demographics and other factors[b]	
		Sometimes	Often/always	Sometimes	Often/always	Sometimes	Often/always
Contact with family:							
Most days	1,104	22.7	10.7	1.00	1.00	1.00	1.00
Weekly	1,396	23.7	13.8	1.17 (0.95, 1.42)	1.39 (1.07, 1.81)	1.08 (0.87, 1.34)	1.22 (0.92, 1.60)
Monthly or less	1,534	24.8	21.2	1.43 (1.17, 1.75)	2.52 (1.97, 3.24)	1.19 (0.95, 1.49)	1.90 (1.45, 2.50)
P (trend)					*<0.001*		*<0.001*
Contact with friends:							
Most days	1,122	22.1	11.5	1.00	1.00	1.00	1.00
Weekly	1,717	23.3	15.0	1.13 (0.94, 1.37)	1.39 (1.10, 1.77)	1.04 (0.85, 1.29)	1.14 (0.88, 1.48)
Monthly or less	1,195	26.4	20.8	1.51 (1.23, 1.86)	2.20 (1.71, 2.83)	1.23 (0.97, 1.55)	1.35 (1.02, 1.80)
P (trend)					*<0.001*		*0.05*
Contact with neighbours:							
Most days	1,736	22.5	11.9	1.00	1.00	1.00	1.00
Weekly	1,492	23.8	16.6	1.19 (0.99, 1.41)	1.52 (1.2, 1.89)	1.03 (0.85, 1.25)	1.27 (1.00, 1.60)
Monthly or less	806	26.9	22.3	1.66 (1.34, 2.06)	2.56 (1.99, 3.29)	1.29 (0.99, 1.67)	1.61 (1.19, 2.18)
P (trend)					*<0.001*		*0.001*
Talk to people in the neighbourhood:							
A great deal	1,130	19.9	13.0	1.00	1.00	1.00	1.00
A fair amount	1,853	25.3	14.6	1.48 (1.22, 1.79)	1.30 (1.03, 1.64)	1.39 (1.14, 1.70)	1.09 (0.86, 1.40)
Not much/never	1,051	25.7	20.7	1.72 (1.37, 2.15)	2.16 (1.67, 2.80)	1.39 (1.07, 1.81)	1.38 (1.01, 1.88)
P (trend)					*<0.001*		*0.01*
Know people in the neighbourhood:							
Many/most	1,709	22.6	13.5	1.00	1.00	1.00	1.00
Some	1,132	23.9	15.0	1.11 (0.92, 1.35)	1.16 (0.92, 1.47)	0.98 (0.80, 1.19)	0.93 (0.73, 1.19)
Few/none	1,193	25.7	19.7	1.36 (1.12, 1.65)	1.74 (1.39, 2.18)	1.04 (0.83, 1.30)	1.08 (0.83, 1.40)
P (trend)					*<0.001*		*0.87*

[a] Sex, age, household type, employment, education, long-standing illness and migrant status;

[b] Impact of each social contact factor adjusted for demographics and all other social contact factors

Table 3

Odds ratios (95% CI) for loneliness according to available social support

	n	% lonely		Adjusted for demographics[a]		Adjusted for demographics and other factors[b]	
		Sometimes	Often/always	Sometimes	Often/always	Sometimes	Often/always
Available practical support:							
More than two people	1,623	20.8	12.9	1.00	1.00	1.00	1.00
One or two people	1,730	25.2	16.4	1.37 (1.15, 1.63)	1.38 (1.12, 1.70)	1.34 (1.05, 1.71)	1.14 (0.85, 1.52)
None	729	27.6	20.2	1.81 (1.45, 2.26)	2.10 (1.62, 2.71)	1.64 (1.20, 2.24)	1.54 (1.07, 2.22)
P (trend)					*<0.001*		*0.002*
Available financial support:							
More than two people	1,052	20.2	12.6	1.00	1.00	1.00	1.00
One or two people	1,178	23.7	17.0	1.29 (1.04, 1.60)	1.49 (1.15, 1.91)	1.09 (0.82, 1.44)	1.17 (0.83, 1.64)
None	1,852	26.1	16.5	1.50 (1.23, 1.82)	1.46 (1.15, 1.86)	1.18 (0.92, 1.51)	0.93 (0.68, 1.27)
P (trend)					*<0.001*		*0.15*
Available emotional support:							
More than two people	1,696	21.9	12.4	1.00	1.00	1.00	1.00
One or two people	1,602	24.8	16.6	1.25 (1.05, 1.48)	1.42 (1.15, 1.76)	0.95 (0.74, 1.23)	1.20 (0.88, 1.63)
None	784	26.2	20.8	1.54 (1.24, 1.91)	2.10 (1.64, 2.69)	1.01 (0.74, 1.37)	1.68 (1.17, 2.42)
P (trend)					*<0.001*		*0.01*

[a] Sex, age, household type, employment, education, long-standing illness and migrant status;

[b] Impact of each social support factor adjusted for demographics and all other social support factors

Table 4

Odds ratios (95% CI) for loneliness according to self-reported health and wellbeing

	n	% lonely		Adjusted for demographics[a]		Adjusted for demographics and other factors[b]	
		Sometimes	Often/always	Sometimes	Often/always	Sometimes	Often/always
Mental wellbeing WEMWBS:							
High	1,567	13.0	12.1	1.00	1.00	1.00	1.00
Medium	1,226	26.2	10.5	2.24 (1.83, 2.75)	0.90 (0.70, 1.16)	1.78 (1.44, 2.21)	0.68 (0.52, 0.88)
Low	1,134	36.1	25.6	4.72 (3.78, 5.90)	2.87 (2.25, 3.67)	2.75 (2.14, 3.52)	1.22 (0.91, 1.62)
P (trend)					*<0.001*		*<0.001*
Mental health SF-12:							
High	1,714	13.8	8.2	1.00	1.00	1.00	1.00
Medium	1,197	30.1	13.0	2.93 (2.40, 3.58)	2.06 (1.59, 2.67)	2.19 (1.78, 2.70)	1.97 (1.51, 2.58)
Low	1,016	33.1	30.8	4.48 (3.58, 5.60)	6.46 (4.99, 8.34)	2.41 (1.86, 3.12)	4.35 (3.22, 5.88)
P (trend)					*<0.001*		*<0.001*
Long-term mental health problem (lasting twelve months or more):							
No	3,106	20.1	12.0	1.00	1.00	1.00	1.00
Yes	451	42.8	21.1	3.33 (2.61, 4.25)	2.61 (1.93, 3.51)	1.80 (1.35, 2.40)	1.27 (0.89, 1.80)
Yes and worsening	370	31.4	37.8	2.85 (2.11, 3.83)	5.11 (3.77, 6.93)	1.26 (0.89, 1.80)	1.82 (1.25, 2.64)
P (trend)					*<0.001*		*0.002*
Spoken to GP about mental health problem:							
No	3,070	20.6	12.0	1.00	1.00	1.00	1.00
Yes	857	35.1	28.0	2.57 (2.09, 3.15)	3.09 (2.45, 3.90)	1.22 (0.94, 1.58)	1.36 (1.01, 1.82)
P (trend)					*<0.001*		*0.10*
Long-standing illness:[c]							
No	2,543	21.4	12.2	1.00	1.00	1.00	1.00
Yes	1,384	28.1	21.6	1.32 (1.07, 1.62)	1.31 (1.01, 1.69)	0.77 (0.61, 0.97)	0.77 (0.58, 1.02)
P (trend)					*0.01*		*0.04*

[a] Sex, age, household type, employment, education, long-standing illness and migrant status;

[b] Impact of each health and wellbeing factor adjusted for demographics and all other health and wellbeing factors

[c] Not adjusted for long-standing illness.