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15 Loneliness in Europe: do perceived neighbourhood characteristics matter?

► Loneliness is more prevalent in Southern and Eastern Europe than in Northern and Western European countries
► Loneliness is related to neighbourhood quality, especially the social aspects of neighbourhood quality
► The local environment is important among all older age groups in late life, but it is most important in relation to loneliness among the old-old

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15.1 Loneliness in later life

Loneliness is a feeling of distress that is accompanied by a perception that the quantity, and especially the quality, of one's social interactions do not meet one's social needs. In other words, loneliness is a consequence of an unwanted gap between what individuals want to have in their social environment in terms of quantity and quality, and what they actually have (Perlman & Peplau 1998). Therefore, loneliness can be considered as a marker of perceived social exclusion. Ample studies have shown that loneliness impairs health. For example, loneliness is associated with poorer self-rated mental and physical health in later life (Cornwell & Waite 2009). The loneliness-morbidity association has also been highlighted in research conducted among older adults (Tomaka et al. 2006). Additionally, there is a growing body of research that has specifically linked loneliness to cardiovascular health (e.g. Thurston & Kubzansky 2009). Moreover, a prospective association between loneliness and mortality has repeatedly been reported in the literature (e.g. Luo et al. 2012).

In light of the serious negative health consequences of loneliness, extensive efforts have been made to gather empirical evidence on its potential predictors. Quantitative and qualitative measures, particularly measures of personal social networks, were found to be associated with loneliness. Of these measures, the quality of the spousal relationship and the quality of relationships with other network members such as family members and friends were found to be highly related to loneliness (Shiovitz-Ezra & Leitsch 2010). One potential predictor that has received only limited empirical attention thus far is the perceived quality of one's neighbourhood of residence. The psychosocial importance of local neighbourhoods tends to grow as people age, due to a decline in physical and func-

tional health. Compromised mobility leads to greater dependence on the close environment, where older people perform more daily and social activities (Glass & Balfour 2003).

A growing body of literature has evaluated the associations of objective and perceived neighbourhood characteristics with physical and mental health. In general, significant neighbourhood-level influences have been found. However, when perceived neighbourhood quality measures and objective measures were tested simultaneously, the subjective neighbourhood construct was most strongly associated with health (Weden et al. 2008). In contrast, the association of neighbourhood context with loneliness has received only limited attention. Among the few studies that have dealt with this topic, one relatively recent study tested the associations between objective neighbourhood characteristics, perceived neighbourhood quality and loneliness among older adults in the Netherlands and in the UK (Scharf & de Jong Gierveld 2008). Whereas the objective neighbourhood measures based on the financial status of the local area were significantly associated with loneliness only in the Netherlands, perceived neighbourhood quality was significantly associated with loneliness in both countries. Older adults who perceived their local neighbourhood negatively tended to report greater loneliness, and vice versa. However, as indicated by the researchers, the study was restricted by a limited number of neighbourhood quality assessments. Only three subjective measures were included in the research design. These measures related mainly to two aspects: perceived safety, and general satisfaction with the neighbourhood of residence.

In comparison, the literature that has found a relationship between neighbourhood quality and health is based on a larger number and broader range of environmental quality dimensions. Perceived physical environment relates, for example, to physical dimensions of neighbourhood quality such as noise, crowdedness, and air quality. Perceived local services constitute another dimension which reflects the quality of local services and the accessibility to them. Another variable, perceived social environment, reflects the quality of social interactions in the local area, i.e., interactions with one's neighbours and level of attachment to the neighbourhood (Wen et al. 2006).

The new module of perceived neighbourhood characteristics that was introduced in SHARE Wave 5 included diverse neighbourhood quality measures that cover the three dimensions reported in the literature: (1) perceived physical environment; (2) perceived service environment; and (3) perceived social environment. Therefore, the use of contemporary SHARE data broadens existing knowledge on the neighbourhood quality correlates of loneliness in later life.

Based on the limited literature that deals with the association between local neighbourhood quality and loneliness in later life, it was hypothesised in the

present analysis that older adults who have negative evaluations of their local neighbourhood would report greater loneliness. It was also hypothesised that the three dimensions of neighbourhood quality would have a differential impact on the loneliness outcome, and that the social domain would be a stronger predictor of loneliness, which is a marker of social exclusion. Finally, in light of theories which posit that the immediate local area takes on greater importance as people grow older and have more restricted mobility, it was hypothesised that stronger associations between perceived neighbourhood quality and loneliness would be found among older age respondents than among the young-old respondents.

15.2 Studying perceptions of neighbourhood quality and loneliness

The current analysis used SHARE Wave 5 data (2013) which, as noted earlier in the book, were collected among people aged 50+ in 15 countries (*N*= 64,966) representing different regions of Europe. The participation of Luxembourg in the fifth round of SHARE data collection for the first time allowed us to expand our inquiry to include this population as well. It is important to note that whereas in the four previous waves of SHARE loneliness was measured through a leave-behind questionnaire, it was measured in the current wave by means of an in-person interview. This difference in the mode of administering questionnaires has empirical implications that are worth noting. On the one hand, the inclusion of a sensitive negative self-labelling phenomenon such as loneliness through CAPI might lead to less reliable responses. On the other hand, it increases the response rate and yields more representative findings. This issue will be discussed further in the summary section.

The following measures were employed in this study:

Loneliness. Loneliness was measured through a 3-item short form of the widely used R-UCLA loneliness scale, which measures general feelings of loneliness. Participants were asked how often they feel a sense of being left out, lack of companionship, and isolation on a 3-point Likert scale ranging from 1 (*hardly ever*) to 3 (*often*). The three items were summed up to produce a total score which ranged from 3–9, with higher scores indicating greater loneliness. In the current sample, the internal reliability of the scale was found to be sufficient (α =.75).

Perceived neighbourhood characteristics. Three dimensions of neighbourhood quality were addressed in the current analysis. In order to evaluate the effects of negative perceptions of these dimensions, the scales of the measures were coded so that higher scores reflected poorer perceptions of the local environment. The

first dimension, perceived physical environment, was tapped using two separate questions about vandalism and cleanliness in the local area. The respondents were asked to indicate the extent to which they agree with the following two statements: "vandalism or crime is a big problem in this area", and "this area is kept very clean". The scale for both items ranged from 1 (*strongly agree*) to 4 (*strongly disagree*). The vandalism scale was reverse coded such that a higher score indicated poorer perceptions of the physical environment on both of the perceived physical environment items.

To measure perceptions of the second dimension, service environment, respondents were asked how easy it is to get to four essential services: a bank, a grocery store, a general practitioner, and a pharmacy. A 4-point ordinal scale was used for each type of service, ranging from 1 (*very easy*) to 4 (*very difficult*). The four questions were summed up (range 4–16), with higher scores indicating service inaccessibility. Finally, the third dimension was perceived social environment. It was measured using two separate items. First, respondents were asked to indicate the extent to which they agree with the following statement: "I really feel part of this (local) area". Second, they were asked to indicate the extent to which they agree with the statement: "If I were in trouble, there are people in this (local) area who would help me". The response scale ranged from 1 (*strongly agree*) to 4 (*strongly disagree*), with higher scores reflecting poorer social environment quality.

Control variables. Three sociodemographic variables were included – age (≥ 50), gender (men/women), and country; and two health indicators – self-rated health, ranging from 1 (*poor*) to 5 (*excellent*), and limitation of activities, ranging from 1 (*not limited*) to 3 (*severely limited*). Age was also considered by means of three age categories– 50–64 [young-old]; 65–74 [old] and 75+ [old-old], employed to evaluate age differences in the association of neighbourhood quality with loneliness.

15.3 Means of analysis

Analysis of variance (ANOVA) was conducted to explore the differences in mean levels of loneliness across the 15 countries participating in SHARE Wave 5, and to clarify whether the mean differences across countries were significant. Scheffe post hoc tests were conducted to verify which of the countries were significantly different in terms of loneliness levels. Associations between perceived neighbourhood characteristics and loneliness were tested at the bivariate and multivariate levels, using unadjusted and adjusted linear regressions. The multivariate level

included the three dimensions of neighbourhood quality as well as the control variables simultaneously. In the final stage, the multivariate model was applied separately among the "young-old", "old", and "old-old" age groups. SHARE Wave 5 release 0 was used for the current analysis using STATA 10.

15.4 How are perceptions of the local environment related to loneliness?

Prevalence of loneliness: Figure 15.1 presents the mean for loneliness among the overall SHARE Wave 5 sample of persons aged 50+, as well as the mean across the countries participating in the current wave – 15 European countries (including Israel). Although the mean for loneliness among the overall sample was relatively low ($M = 3.8$, $SD = 1.33$), it varied across the participating countries. The countries that showed the highest means for loneliness were the Czech Republic, Italy, and Estonia, whereas Denmark, Switzerland, and Austria showed the lowest means. The differences between the countries that showed the highest and the lowest means for loneliness were found to be significant in post hoc tests.
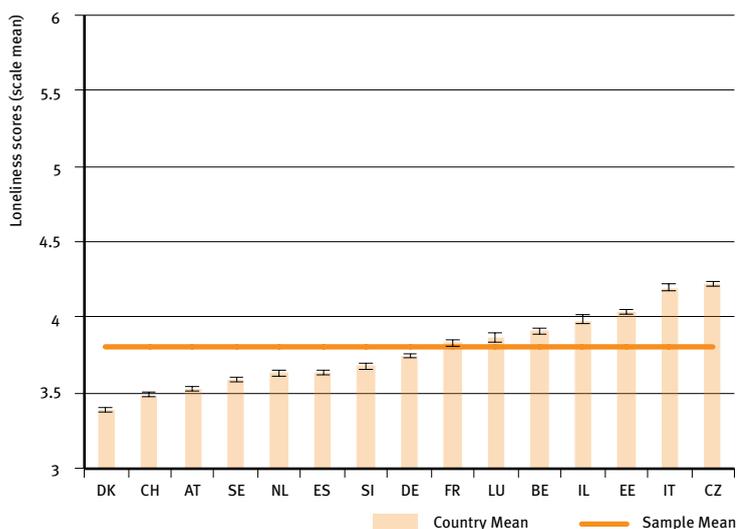

Figure 15.1: Loneliness across Wave 5 SHARE countries
Notes: Excluding respondents aged <50 and respondents with no loneliness data (N=62.384);
The loneliness scale range is 3–9, higher score presents greater loneliness
Source: SHARE Wave 5 release 0

Perceived environmental characteristics and loneliness: significant associations between the three dimensions of local environment quality and loneliness were found in the bivariate analysis (not shown), albeit to a varying degree. The strongest association was found between the two items that reflected the social dimension of local area quality, with participants who reported that they don't feel part of their local area tending to report the highest levels of loneliness (β = .30, SE = .01, p < .001). The next important aspect was the physical dimension. Older people who reported that their local area is not clean and that perceived vandalism is a major problem in their neighbourhood reported greater loneliness (β = .20, SE = .01, p < .001; β = .17, SE = .01, p < .001, respectively). Finally, the service environment was also found to be significant, but it was the least important dimension in relation to loneliness among the environment measures (β = .08, SE = .00, p < .001).

A very similar picture emerged at the multivariate level, where the adjusted model controlled for socio-demographic and health variables (Figure 15.2). Older people aged 50 and over who reported that they do not feel part of their local area also reported greater loneliness (β = .22, SE = .01, p < .001) regardless of their age, gender, country of residence, and health condition. The unhelpful neighbour item that also measured the social aspect of perceived neighbourhood environment was found to be strongly related to loneliness too (β = .13, SE = .01, p < .001). Regarding the physical aspect of vandalism, the relationship with loneliness was also significant, but to a lesser degree (β = .05, SE = .00, p < .001). However, the other predictor of physical environment quality, cleanness of the local area, was not related to loneliness in the adjusted model. Similarly, the association of service accessibility with loneliness was very weak (β = .03, SE = .00, p < .001), but remained significant at the multivariate level. The adjusted model included the three domains of quality of neighbourhood of residence, and the control variables explained 15% of the loneliness outcome variance.

The association between perceived environmental characteristics and loneliness across age groups: in the final stage of analysis, the association between the quality of the local environment and loneliness was tested separately for three age groups (50–64: "young-old"; 65–74: "old"; and 75+: "old-old"). Table 15.1 indicates that the contribution of the quality of the immediate environment to loneliness tends to be stronger in the older age groups. This is particularly relevant to the social dimension of the environment, and specifically to the item indicating whether the individual feels part of the local area. Although the social dimension was the strongest predictor of loneliness among all age groups, its importance increased by age group (β = .21, SE = .01, p < .001; β = .23, SE = .02, p < .00; and β = .25, SE = .02, p < .001, respectively). This finding was not evident, however, for the physical aspect of the local environment. For example, perceived
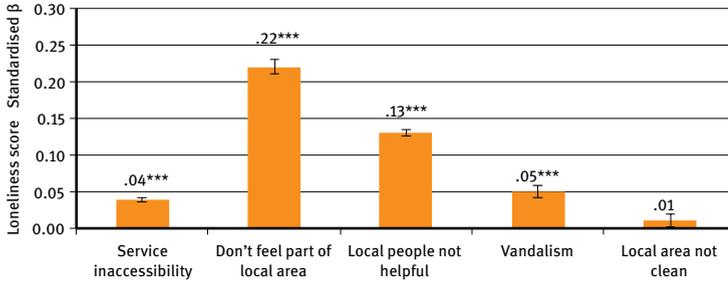
Figure 15.2: Perceived neighbourhood correlates of loneliness: multivariate analysis
Significance: *** = 1 %
Notes: Excluding respondents aged <50 (N=39.411); Model controlled for Sociodemographics
(age, gender, country) and Health (self-rated health, disability); Adjusted R-square: 0.15
Source: SHARE Wave 5 release 0

vandalism mainly contributed to loneliness among the "young-old" group of participants (aged 50 to 64). In contrast, the contribution of the service aspect was greater for the two older groups than for the "young-old" group. Furthermore, a larger percentage of the variance in the loneliness outcome was explained by the measures of neighbourhood quality among the older age groups (R^2 = 13 %, R^2 = 14 %, and R^2 = 17 %, respectively).

Table 15.1: Perceived neighbourhood correlates of loneliness across age groups

	Age group 50–64 (n=17,513)	Age group 65–74 (n=12,136)	Age group 75+ (n=9,762)
	β (S.E)	β (S.E)	β (S.E)
Service inaccessibility	.02(.00)***	.04(.00)***	.04(.00)***
Don't feel part of local area	.21(.01)***	.23(.02)***	.25(.02)***
Local people are not helpful	.13(.01)***	.13(.02)***	.15(.02)***
Vandalism	.07(.01)***	.02(.01)	.04(.02)**
Local area not clean	.02(.01)*	.04(.02)**	−.01(.02)
Adjusted R^2	0.13	0.14	0.17

Significance: *** = 1 %; ** = 5 %; * = 10 %
Notes: Models controlled for Sociodemographics (age, gender, country) and Health (self-rated
health, disability)
Source: SHARE Wave 5 release 0

15.5 What do we learn from the present study?

Consistent with prior research findings that have shown differences in the prevalence of loneliness across different geographic areas in Europe, the current data revealed that on the whole, loneliness is more widespread in Southern and Eastern Europe than in Northern and Western European countries. This consistent trend was not influenced by the change in the mode of administering questionnaires that was introduced in SHARE Wave 5. As noted, in the current wave of data collection, loneliness was measured by an in-person questionnaire and not by a leave-behind questionnaire as in the previous four waves of SHARE. Because loneliness is a negative feeling, it might be harder for participants to admit to the interviewer that they experience it. This could lead to a social desirability bias, so that a self-administered questionnaire might be more suitable for achieving reliable results. The fact that a similar trend was revealed can be attributed to the use of an indirect measure of loneliness in the current analysis, which aimed to minimise that bias. It is also important to note that including the loneliness measure in the CAPI increased the response rate, so that the findings on loneliness in the current survey are more representative.

The main aim of the current chapter was to examine the associations between a variety of perceived neighbourhood characteristics and the experience of loneliness in later life. Based on the limited research on this topic, it was hypothesised that older adults who negatively evaluate their local neighbourhood would report greater loneliness, and that the social dimension of local area quality would be more closely related to loneliness than the perceived physical environment and services. Both of these hypotheses were confirmed in the current analysis. In the adjusted model, all of the perceived neighbourhood characteristics except one were significantly associated with loneliness, and the association was in the expected direction. Negative perceptions of the local environment in terms of the social, physical, and service dimensions were associated with greater loneliness.

Moreover, of the three dimensions of the perceived quality of the local area, the social environment was the strongest predictor of loneliness. This finding was consistent in both the unadjusted and adjusted models. According to theoretical models of loneliness, the development of these feelings is strongly associated with deficits in the social arena (Perlman & Peplau 1998). Therefore, the present findings that highlight the importance of perceived deficits in the local social environment are consistent with the theoretical perception of loneliness. Similar to previous studies which have found strong associations between the quality of relationships with members of the social network (particularly spousal relationships) and loneliness (Shiovitz-Ezra & Leitsch 2010), the present analysis emphasises the contribution of the quality of the local social environment,

i.e., feeling part of one's local area and perceiving one's neighbours as helpful, to experiencing general feelings of loneliness. This finding is also in line with the results of another study which found that perceived physical environment is most closely related to physical health (Wen et al. 2006). Because the outcome of the present survey is more an indicator of "social health" or social exclusion, the social predictors are of particular relevance. Yet, because the present analysis is restricted to a cross-sectional design we cannot rule out the possibility that feelings of loneliness might have affected the way the participants perceived their local environment. Future waves of SHARE will provide a suitable empirical platform for investigating causal or reciprocal relationships between perceived neighbourhood environment and loneliness in later life.

Finally, the assumption that the neighbourhood environment is more important among older age groups was supported in this study, particularly with regard to the quality of the social environment. This finding is consistent with the theoretical argument that as people age and their functional health and mobility decline, the immediate environment becomes a central arena of activity and social involvement and thus has a greater impact on the well-being of older people (Glass & Balfour 2003). However, here too, only longitudinal analyses using future SHARE waves will provide a means for empirical verification of this theoretical argument, which points to an aging effect.

In sum, the current analysis highlights the important contribution of the quality of the local social environment to the experience of loneliness in later life. Thus, there is a need to develop social policy and programs that put the neighbourhood at the heart of public interventions. Systematic efforts to increase social solidarity and cohesiveness at the local neighbourhood level are required in order to make older residents feel more attached to their neighbourhoods and to promote their greater receipt of assistance from their neighbours. This, in turn, might help to reduce feelings of social exclusion in old age.

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