Determinants of quality of life amongst older people in deprived neighbourhoods

ALLISON E. SMITH*, JULIUS SIM†, THOMAS SCHARF* and CHRIS PHILLIPSON*

ABSTRACT
This article analyses the determinants of the quality of life in a sample of 600 people aged 60 or more years living in deprived areas of three English cities. Data were collected by means of a face-to-face administered questionnaire. Two standardised measures, the ‘Satisfaction With Life Scale’ (SWLS) and the ‘Philadelphia Geriatric Center Morale Scale’ (PGCMS), and a single-item question were used to produce outcome measures of the quality of life. Using a conceptual model of quality of life factors, 21 socio-demographic, objective and subjective variables were correlated with each of the measures. Thirteen of these variables were subsequently entered in three multiple regression models. Subjective variables correlated significantly with all three quality of life measures, but socio-demographic and objective life condition variables correlated less strongly. Regression analysis revealed perception of own health, perceived ability to cope financially, perception of poverty over time and loneliness to be important determinants of the quality of life across all three quality of life measures. Variables that described characteristics of the urban environment had limited direct influence on the quality of life. The findings support the conceptual framework and highlight the key role played by subjective variables in determining the quality of life of older people in deprived urban areas.

KEY WORDS – Quality of life, older people, deprived areas, Satisfaction With Life Scale, Philadelphia Geriatric Center Morale Scale.

Introduction

Concepts such as quality of life, subjective wellbeing and life satisfaction are important themes in contemporary academic research on older people and also feature in the public policy agenda.\(^1\) Around the world, concern about health, education and economic inequality is reflected in debates about ‘sustainable development’ and the need to achieve a ‘sustainable quality of life’ (Dervitsiotis 2001). In gerontology, the themes of ‘successful
ageing’ (Baltes and Baltes 1990; Rowe and Kahn 1997) and ‘ageing well’ (Vaillant 2002) have also fostered interest in wellbeing and life satisfaction dimensions, but nonetheless the definition of quality of life and its determinants remain contested (Smith 2000). Researchers have yet to agree on whether quality of life is best left for individuals to define and quantify, or whether there is a generic or widely shared component (Dalkey et al. 1972).

This article reports an analysis of the factors that influence the quality of life among people aged 60 or more years living in deprived urban neighbourhoods of England. It reflects the renewed gerontological interest in the impact of environmental factors on the processes and outcomes of ageing (Kendig 2003; Wahl and Lang 2003; Wahl, Scheidt and Windley 2003). Several recent studies have identified a number of environmental risks for older people who ‘age in place’ in cities, several of them associated with managing everyday activities (Hannan Foundation 2001; Phillipson et al. 2001; Klinenburg 2002; Scharf et al. 2002; Newman 2003). Such risks are closely related to changes in the physical fabric of cities, with economic disadvantage, poor housing, lack of employment opportunities, above-average rates of crime, and the loss of local amenities and services: all of which singly or through interactions tend to reduce the quality of residents’ lives.

The study reported here surveyed 600 people aged 60 or more years. Data were collected about seven factors that existing research had identified as being potentially important in relation to quality of life: socio-demographic characteristics, social support, health, material resources, crime, the residential neighbourhood and housing. The article has three objectives: first, to review briefly existing empirical research on the quality of life of older people; second, to present the methodology and results from a survey using different quality of life measures; and third, to discuss the implications of the findings. While the focus of the article is on the determinants of quality of life amongst older people who live in a particular type of geographic location, the analysis raises several broader issues for research on wellbeing in later life.

Empirical background: determinants of the quality of life

Previous research has identified several factors that contribute to an individuals’ quality of life that can be summarised under seven headings:

Socio-demographic attributes: A number of studies have related key socio-demographic variables, such as age, marital status, sex and ethnicity, to wellbeing and life satisfaction (Fernandez and Kulik 1981; Haug and Folmar 1986; Thomas and Hughes 1986; Hao and Johnson 2000;
Pinquart 2001). Being older, married, and having a lower level of education have all been associated with greater reported life satisfaction (Fernandez and Kulik 1981). Studies of ethnic minority groups in Canada and the United States have shown that some minority groups have a poor quality of life, in comparison with the white majority (Thomas and Hughes 1986; Hao and Johnson 2000; Michalos and Zumbo 2001). Women, particularly older women, tend to express the highest levels of dissatisfaction with life (Haug and Folmar 1986), and advanced age reduces the quality of life most of all (Pinquart 2001). Other studies have related individuals’ life satisfaction to the influence of social class, mediated by educational level. For example, Laubach et al. (2000) reported that people in the lower social classes experienced lower life satisfaction. Analysis of data from a five-nation study demonstrated the moderate to strong predictive power of income and education in explaining the variation in quality of life scores (Tesch-Römer, Motel-Klingebiel and von Kondratowitz 2003: 270). When other variables such as poor health and economic disadvantage have been taken into consideration, however, some studies suggest that socio-demographic factors are less influential (Kunzmann, Little and Smith 2000).

Social support: When asked to prioritise the important areas of their lives, people of all ages frequently mention relationships with family or relatives as most important, followed by their own health, the health of others (e.g. family or friends), and personal finances or material standard of living (Bowling 1995). Farquhar (1995) reported that a majority of those aged 65 or more years found family relationships to be the ‘thing which give(s) their life quality’. Other important variables mentioned were social activities, social contacts with others, health, and material circumstances. Amongst those aged 85 or more years, health and physical function were mentioned as the most influential factors on the quality of life – ahead of material resources. Although current social scientific enquiry seeks determinants beyond health-related quality of life, health might be especially relevant for groups such as older people (Farquhar 1995).

Health: Numerous studies have demonstrated the significance of health or satisfaction with health as a determinant of the quality of life (Bowling 1995; Kunzmann, Little and Smith 2000; Michalos, Zumbo and Hubley 2000; Seik 2000; Bowling and Windsor 2001; Michalos et al. 2001; Michalos and Zumbo 2002). In one study of health and quality of life amongst people aged 55–95 years, self-reported health explained 34 per cent of the variance in overall quality of life scores (Michalos et al. 2001). Results from the Berlin Ageing Study (BASE) found that health, not
advanced age, was the mediating factor in reports of subjective wellbeing (Kunzmann, Little and Smith 2000; Smith et al. 2002).

**Material resources:** Several studies have identified a link between adequate financial resources and quality of life (Bowling 1995; Farquhar 1995; Mookherjee 1998; Bowling and Windsor 2001). Scharf et al. (2002) found that those living in poverty were twice as likely to rate their quality of life as very poor compared with those not in poverty. In a study that measured people’s living conditions, wellbeing was found to be affected by ‘the extremely deep concern of [older] people with their financial situation’ (Dukeov et al. 2001: 1035).

**Crime:** Despite frequent references in policy statements to anticipated links between people’s experience of crime and their quality of life, there has been relatively little research on crime’s precise impacts (Mulvey 2002). Raphael, Steinmetz and Renwick (1999) examined the quality of life of residents in a disadvantaged community in Toronto, and revealed that fear of crime and lack of personal safety detracted from the residents’ quality of life. Conversely, Michalos and Zumbo (2000) found that crime-related issues, for example, fear of crime or being a victim of crime, only accounted for nine per cent of the variance in quality of life scores, but also that when other variables such as family life and health were taken into consideration, almost 60 per cent of the variance was explained.

**Neighbourhood:** Despite the breadth of theoretical and conceptual analysis of the interaction between older people and their environment (Lawton and Nahemow 1973; Rowles 1978; Kahana 1982; Lawton 1986; Kahana et al. 2003), little empirical research has explored neighbourhood influences on the quality of life. Moreover, the few studies that have sought to link individual wellbeing to environmental factors have reported equivocal findings (Rowles 1978; Wilkening and McGranahan 1978; Amos, Hitt and Warner 1982). Fernandez and Kulik (1981) surveyed almost 8,000 people in a US study, found that neighbourhood context influenced satisfaction, and argued that ‘neighbourhoods are important social contexts within which individuals draw satisfaction from life’ (1981: 848–9). Bramston, Pretty and Chipuer (2002) studied both the individual and the community determinants of quality of life to identify those that had the greatest impact. The participants’ feelings of loneliness were used to measure individual determinants, and community level determinants were assessed by asking residents to respond to statements about their neighbourhood, e.g. feelings about neighbours and neighbourhood safety. The study revealed that the individual’s perception of loneliness had the
greatest impact on subjective quality of life, whereas community attributes had little impact. The authors could not rule out the indirect effect of community level variables on the subjective quality of life.

**Housing:** The importance of housing has been observed in several studies. Perez *et al.* (2001) studied the association between quality of life and older people’s neighbourhood satisfaction. Residential satisfaction was found to be highest amongst women and those in advanced old age. Most associated with the highest level of residential satisfaction were home-related items such as comfort, size and light, as well as neighbourhood attributes, such as the condition of pavements and streets. In a study that examined the independence and wellbeing of older people living in the community, Iwarsson and Isacsson (1997) concluded: ‘Inaccessible housing presents a potential health problem, since it threatens the independence and subjective wellbeing of elderly people’ (1997: 81).

**Summary**

Drawing these themes together, it is evident that research findings on quality of life factors are equivocal. Differences in methodology and sampling strategies render intrinsically difficult the understanding of the mechanisms that influence quality of life. As shown by Kunzmann, Little and Smith (2000), the socio-demographic variables once thought to be important determinants of the quality of life need to be considered in relation to other variables such as health and economic circumstances. In addition, social support, participation in social activities, fear of crime, housing issues and neighbourhood satisfaction have been found – albeit to differing degrees – to be related to the quality of life. This gives rise to the conclusion that quality of life is best regarded as a multi-dimensional construct, the components of which may vary according to the nature of the sample studied, the contextual or environmental situation, and the methodology and design of the study.

**Conceptual framework**

Such equivocal findings made it necessary to adopt a broad conceptual model of the determinants of the quality of life. ‘Environmental-ageing models’, similar to those proposed by Lawton and Nahemow (1973) and Kahana *et al.* (2003), offered valid and potentially useful frameworks. It was decided to develop the approach of Campbell, Converse and Rogers (1976), as subsequently refined in the Berlin Ageing Study (BASE) (Baltes and Mayer 1999). The BASE researchers, in developing a heuristic and
multi-dimensional construct model of the quality of life, hypothesised that ‘overall subjective wellbeing is a function of the direct and indirect effects of social-structural and demographic variables (i.e. age, gender, marital status), objective life conditions (i.e. housing, income, social networks and activities, physical and mental health), and subjective experiences of these domain-specific life conditions’ (Smith et al. 1999: 452). The value of this model lies in its ability to accommodate additional domains that influence the quality of life. Moreover, the approach makes few assumptions about the data, especially about the influence exerted by socio-demographic, objective and subjective variables on perceptions of individual wellbeing (see Figure 1).

Within the adopted framework, this article addresses two research questions. The first concerns the determinants of quality of life of older
people who live in deprived urban neighbourhoods. Taking account of various theoretically relevant variables, it seeks to identify the factors that have the greatest impact on the quality of life of older people who live in socially-deprived urban neighbourhoods. The second research question relates to measures of life quality. This study used three different measures, which raised issues about the degree to which the measures display similar properties and associations.

Methodology

Recruitment of participants

Face-to-face interviews were conducted in 2000/2001 with 600 people aged 60 or more years living in nine socially-deprived electoral wards in England. An official deprivation measure (DETR 1998) was used to select the three most deprived local authorities in England (the cities of Liverpool and Manchester and the London Borough of Newham), and then the three most deprived electoral wards in each of those authorities. Two recruitment strategies were employed: the first was to draw a random sample of 2,302 individuals from local electoral registers using a ‘first names’ algorithm. Of these, 1,116 were deemed ineligible to participate because they had moved house or died, or they were the wrong age, or they were too ill to participate. Of the 1,186 eligible respondents, 360 refused to participate and 325 could not be contacted, but 501 interviews were completed, giving a response rate of 42 per cent.

One limitation of a sampling method based on respondents’ first names is that it is unable to identify people of the appropriate age who belong to certain minority ethnic groups. To overcome this difficulty, and to generate sufficiently large samples from particular groups for statistical analysis, an additional sample was recruited from the largest minority ethnic groups in each of the sampled electoral wards. They were accessed through various community organisations and previous contacts. Ninety-nine older people belonging to four different minority groups were recruited in this way.

Questionnaire design and quality of life measures

The design of the questionnaire was informed by the research literature and through discussions with seven separate groups of older people. The discussions enabled the research team to develop a fuller understanding of older people’s perceptions of quality of life, to test specific research questions, and to ensure that the terminology was shared (Scharf et al. 2000). Nine themes were identified that appeared to be central to the...
### Table 1. Definitions of variables

<table>
<thead>
<tr>
<th>Name</th>
<th>Definitions and descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Male/female.</td>
</tr>
<tr>
<td>Age</td>
<td>Recorded in years.</td>
</tr>
<tr>
<td>Marital status</td>
<td>Dichotomised as: married/cohabiting and not married/cohabiting.</td>
</tr>
<tr>
<td>Social class</td>
<td>Encompassing five categories; I/II Professional, managerial and technical occupations; III (N) Skilled non-manual occupations; III (M) Skilled manual occupations; IV Party-skilled occupations; V Unskilled occupations.</td>
</tr>
<tr>
<td>Equivalised income</td>
<td>Income of a pensioner couple equivalent to that of a ‘single’ pensioner/0.61.</td>
</tr>
<tr>
<td>Necessities</td>
<td>Aggregate measure based on an individuals’ access to 25 items perceived by the general population to be necessities of daily life, e.g. two meals a day; insurance for contents of home, and a telephone (Scharf et al. 2002).</td>
</tr>
<tr>
<td>Index of multiple deprivation</td>
<td>Aggregate measure based on Evandrou (2000). Index comprises seven items considered important to older people, e.g. central heating, use of a telephone, access to a car. Scores range from ‘0’ (no deprivation) to ‘5’ or more (high deprivation).</td>
</tr>
<tr>
<td>Years lived in neighbourhood</td>
<td>Measured in years.</td>
</tr>
<tr>
<td>Housing problems</td>
<td>Aggregate measure derived from responses to nine questions on various housing problems, e.g. shortage of space; lack of adequate heating facilities; leaky roof.</td>
</tr>
<tr>
<td>Victim of crime</td>
<td>Aggregate measure based on respondents’ recent experience of one or more of seven types of crime, e.g. break-in or attempted break-in; theft of something being carried; defrauded or cheated out of money, possessions or property.</td>
</tr>
<tr>
<td>Social support network</td>
<td>Using Wenger’s (1991) five-fold social-support network typology.</td>
</tr>
<tr>
<td>Limiting long-standing illness</td>
<td>‘Does this [long-standing] illness or disability/Do any of these [long-standing] illnesses or disabilities limit your activities in any way?’ Response categories: Yes/No.</td>
</tr>
<tr>
<td>Perception of poverty over time</td>
<td>‘Looking back over your life, how often have there been times when you think you have lived in poverty by the standards of that time?’ Response categories: Never, Rarely, Occasionally, Often, Most of the time.</td>
</tr>
<tr>
<td>Feeling isolated from society</td>
<td>‘Are there ever occasions when you feel isolated or cut off from society?’ Response categories: Yes/No.</td>
</tr>
<tr>
<td>Perception of own health</td>
<td>‘Would you say that for someone of your age, your own health is generally …’ Response categories: five-point ordinal scale ranging ‘very good’ to ‘very poor’.</td>
</tr>
<tr>
<td>Fear of crime</td>
<td>Aggregate measure based on the degree to which respondents were worried about 4 types of crime: a break-in or attempted break-in to home; being mugged or robbed; being conned or cheated at doorstep; being physically attacked because of colour, ethnic origin or religion.</td>
</tr>
<tr>
<td>Loneliness</td>
<td>Measured using the 11-item De Jong Gierveld Loneliness Scale (De Jong Gierveld and Kamphuis 1985). The dichotomous responses are aggregated to produce a scale from ‘0’ (not lonely) to ‘11’ (severely lonely).</td>
</tr>
<tr>
<td>Community integration</td>
<td>Aggregate measure encompassing responses to six statements about individuals’ perceptions of their neighbourhood, including ‘I believe my neighbours would help me in an emergency’; ‘I feel I can trust the people in my neighbourhood’; and ‘This neighbourhood is a good place to grow old in’.</td>
</tr>
<tr>
<td>Satisfaction with</td>
<td>Overall, how satisfied are you with this accommodation? Response categories form a five-point ordinal scale, ‘very satisfied’ to ‘very dissatisfied’.</td>
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<tr>
<td>accommodation</td>
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concept of quality of life in deprived urban neighbourhoods: health and wellbeing; social networks and support; access to socially perceived necessities; finances; work and retirement; housing; feelings about the neighbourhood; crime; and local services. The themes, which parallel closely those that recur in the literature, were addressed by survey questions drawn from national surveys (e.g. the British population census, the General Household Survey and the British Crime Survey) or devised by the research group for this study. Variables relating to these themes were subsequently assigned to the categories identified in the conceptual framework. In this respect, it is important to note that the distinction between socio-demographic, objective and subjective variables is problematic in survey research. All data collected through such surveys – including those relating to socio-demographic information such as age and gender or objective characteristics such as chronic illness – should be regarded as being in some way ‘subjective’. For the purposes of this analysis, however, it was deemed necessary for each of the seven themes to distinguish variables that could be regarded as (more or less) objective from those that asked respondents subjectively to evaluate a particular dimension of their lives. The variables are defined in Table 1.

The study adopted two standard measures of subjective wellbeing in addition to a single-item measure. They were Lawton’s (1975) ‘Philadelphia Geriatric Center Morale Scale’ (PGCMS) and the ‘Satisfaction With Life Scale’ (SWLS) of Diener et al. (1985). The PGCMS was chosen because it was designed specifically for use with older people – making it unique amongst subjective wellbeing measures. A 14-item scale, based on that developed by Morris and Sherwood (1975), was used instead of the original 17-item version. The PGCMS has been used in many studies in diverse settings (Liang and Bollen 1983; Liang et al. 1987; McCulloch 1991; Schmotkin and Hadari 1996; Curtice et al. 2002). Scale items include the statements: ‘Little things bother me more this year’, and ‘I am as happy

<table>
<thead>
<tr>
<th>Name</th>
<th>Definitions and descriptions</th>
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<tbody>
<tr>
<td>Satisfaction with</td>
<td>In general, how satisfied are you with this neighbourhood as a place to live? Response categories: five-point ordinal scale ‘very satisfied’ to ‘very dissatisfied’.</td>
</tr>
<tr>
<td>neighbourhood</td>
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<tr>
<td>Ability to manage financially</td>
<td>Talking everything together, how well would you say you (and your husband/wife/partner) are managing financially these days? Response categories: Living comfortably, Doing all right, Just about getting by, Finding it quite difficult, and Finding it very difficult.</td>
</tr>
</tbody>
</table>
now as I was when I was younger’. The items are five-point Likert scales and the aggregate score (from ‘1’ to ‘5’) was derived by summing the individual items scores and dividing by 14.

The SWLS has been used in studies of the subjective wellbeing of several population groups in different countries (Pavot and Diener 1993; Diener et al. 1999). The measure was chosen for two main reasons. First, the SWLS is straightforward to administer, seeking responses to only five statements such as: ‘In most ways my life is close to my ideal’, and ‘I am satisfied with my life’. This contrasts with the complexity of many other standard measures of subjective wellbeing (e.g. the 14- or 17-item PGCMS or the 100-item and short version 26-item World Health Organisation Quality of Life measure (WHOQOL)). Second, previous research showed SWLS to correlate highly with other standard measures, including the PGCMS (Pavot et al. 1991). This is an important practical consideration in research involving respondents who might find a long questionnaire taxing. Although the SWLS commonly uses a seven-point scale, to make the scale more intelligible for respondents, a five-point Likert scale was used for each of the scale-items. The aggregate score (with possible values from ‘1’ to ‘5’) was derived by summing the individual item scores and dividing by five.

The single-item measure, also used in previous studies (see Farquhar 1995; Hannan Foundation 2001), provided an additional measure with which to compare and test the standard scales. It invited respondents to rate their own quality of life on an ordinal scale, with the following response categories: ‘very good’, ‘good’, ‘neither good nor poor’, ‘poor’ and ‘very poor’.

**Statistical analysis**

In view of the ordinal nature of the single-response item, the Spearman rank-order correlation coefficient was used to assess correlations between the three quality of life scales. The internal consistency of the SWLS and the PGCMS was assessed by means of the Cronbach’s alpha coefficient. The relationships between quality of life and the predictor variables were explored in two stages. First, the association of individual variables with each of the quality of life measures was assessed by the bivariate correlation coefficients. At the second stage, multiple regression was used to identify the combinations of variables that best predict the quality of life on the three scales. A variable was included in the regression model if the bivariate correlation coefficient with at least one of the three quality of life scales exceeded a modulus of 0.20. The 13 predictors so selected were: necessities, housing problems, victim of crime, limiting long-standing illness, perception of poverty over time, feeling isolated from society,
perception of own health, fear of crime, loneliness, community integration, satisfaction with accommodation, satisfaction with neighbourhood, and ability to manage financially.

For the SWLS and the PGCMS, multiple linear regression was performed. All 13 predictors were entered into the model using backward selection, to the point where only those variables that were significant predictors remained in the model. The multiple coefficient of determination ($R^2$) was used as the goodness-of-fit statistic for the model: it represents the proportion of variance in the outcome variable that can be accounted for by the predictor(s) in the model. For the single-item response, an ordinal regression model was used with a probit link function. The selection of predictor variables for the final model was similar to that used in the multiple linear regressions, so only significant predictors remained in the final model. The goodness-of-fit statistic was the Nagelkerke pseudo-$R^2$. This statistic is analogous to the $R^2$ statistic in multiple linear regression.

Statistical significance was set at five per cent ($p \leq 0.05$) in two-tailed tests.

Results

The participants’ characteristics

Although there was no intention to generate a sample representative of the older population of the United Kingdom as a whole, it is nevertheless useful to compare the 456 survey respondents aged 65 and more years with the national profiles as estimated from the General Household Survey (GHS) (Table 2). The deprived areas sample differs little from that of the UK in gender, especially at ages 75 and more years, but there were more marked marital status differences. Compared with the GHS sample, the respondents were significantly less likely to be either married or living as a couple, and much more likely to be widowed. The deprived areas sample reported higher rates of limiting long-standing illness than the general older population. They also differed on several characteristics for which directly comparable national data are not available, e.g. the sample was more ethnically diverse than the general population of older people, reflecting the profile of socially disadvantaged urban neighbourhoods and the study’s recruitment strategy. Seventy per cent of respondents described themselves as white, 13 per cent as Black Caribbean, seven per cent as Somali, five per cent as Pakistani, four per cent as Indian and two per cent as belonging to another ethnic group. The survey respondents displayed a significantly low level of owner-occupation: 58 per cent rented their homes from either private or social landlords, while 42 per cent were
owner-occupiers or in the process of purchasing their homes – in the general population, the equivalent percentages were 31 and 69 (Office for National Statistics 2001: 39). The sample was disproportionately poorer than the overall older population, for while 21 per cent of people aged 60 and more years over in Great Britain were classed as in poverty in 1999 (Patsios 2001), the comparable proportion in the deprived areas sample was 45 per cent (Scharf et al. 2002: 30). Almost 40 per cent had an equivalised weekly income of less than £100, while just 15 per cent had incomes of £200 or more, so clearly the respondents were concentrated in the lower socio-economic groups, as reflected in the fact that 86 per cent had completed full-time education by the age of 16 years. Finally, the deprived areas sample was much less mobile than equivalent national samples. Seventy-nine per cent of the respondents had lived in their current neighbourhood for 20 or more years, compared with 23 per cent of those in England as a whole (Office of the Deputy Prime Minister 2003: 129).

The deprived areas sample of older people therefore differed in important ways from that of the UK. This limits the degree to which it is possible to generalise findings from this study to the general older population. In particular, the fact that the sample had relatively homogeneous socio-economic status and income reduces the ability to disaggregate these characteristics. Moreover, while the achieved response rate of 42 per cent was a good outcome, we are unable to comment on the characteristics of the non-respondents. These points, and the comparative neglect of disadvantaged socio-geographical areas in quality of life research (for reasons

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**Table 2. Demographic characteristics of deprived area sample compared with UK sample**

<table>
<thead>
<tr>
<th></th>
<th>GHS 2000 (65–74 years)</th>
<th>Deprived areas (65–74 years)</th>
<th>GHS 2000 (75+ years)</th>
<th>Deprived areas (75+ years)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>47</td>
<td>43</td>
<td>38</td>
<td>37</td>
</tr>
<tr>
<td>Female</td>
<td>53</td>
<td>57</td>
<td>62</td>
<td>63</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>6</td>
<td>9</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Married/Living as a couple</td>
<td>66</td>
<td>46</td>
<td>41</td>
<td>27</td>
</tr>
<tr>
<td>Separated/Divorced</td>
<td>7</td>
<td>12</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Widowed</td>
<td>21</td>
<td>33</td>
<td>49</td>
<td>60</td>
</tr>
<tr>
<td><strong>Health status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limiting long-standing condition</td>
<td>37</td>
<td>47</td>
<td>47</td>
<td>60</td>
</tr>
<tr>
<td><strong>Sample sizes</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>4,719</td>
<td>251</td>
<td>3,888</td>
<td>205</td>
</tr>
</tbody>
</table>

of interviewer safety and high population turnover), should be borne in mind when interpreting the research findings.

Summary statistics and internal consistency of the measures

The mean of the SWLS was 3.14 (standard deviation (s.d.) 0.81, \(N=560\)) and the Cronbach’s alpha was 0.81. The mean morale score on the PGCMS was 3.18 (s.d. = 0.76, \(N=549\)) and the Cronbach’s alpha was 0.89. The median score on the single-item measure was ‘4’ (interquartile range 3–4, \(N=573\)). The absence of recognised normative scores and different methodological approaches makes it difficult to compare these data with those of similar populations of the same age range. However, the SWLS score in this study was slightly lower than both the mean of 3.46 reported by Pavot et al. (1991) and the 3.99 for men and 3.74 for women cited by Blais et al. (1989) for North American older adults (Pavot and Diener 1993). This suggests that older people in deprived areas experience a lower quality of life compared with representative samples – a finding that clearly requires further verification. No equivalent comparisons could be made for the PGCMS.

Table 3 shows the bivariate correlations between the three quality of life measures: each was statistically significant and met Cohen’s (1988) criterion for a large effect for correlations (\(r \geq 0.50\)). The proportion of shared variance was similar for each pair of variables. The association between SWLS and PGCMS was slightly lower than that reported by Pavot et al. (1991). Table 4 presents the correlation of 21 variables across the three quality of life measures. In relation to this set of bivariate correlations, the significance level was reduced to \(p \leq 0.01\) to minimise Type 1 errors. The five socio-demographic variables are shown to have no or low correlation (\(r \leq 0.3\)) across the three quality of life measures, and to be significant (\(p < 0.01\)) in only one instance. The seven variables representing objective life conditions had a small to medium correlation and most were statistically significant. Almost all of the nine subjective domain evaluations had small to high correlations with the quality of life measures.

<table>
<thead>
<tr>
<th>Measure</th>
<th>SWLS by SI</th>
<th>PGCMS by SI</th>
<th>SWLS by PGCMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman’s correlation</td>
<td>0.37</td>
<td>0.36</td>
<td>0.50</td>
</tr>
<tr>
<td>(r^2)</td>
<td>0.32</td>
<td>0.31</td>
<td>0.35</td>
</tr>
<tr>
<td>(p) value</td>
<td>&lt;0.0005</td>
<td>&lt;0.0005</td>
<td>&lt;0.0005</td>
</tr>
</tbody>
</table>

Notes: PGCMS Philadelphia Geriatric Center Morale Scale. SI Single item. SWLS ‘Satisfaction With Life Scale’. For details see text.
The highest correlations related to perceptions of own health, loneliness and participants’ perceived ability to manage on their current finances. These associations show that those perceiving their health as poor, those feeling lonely and those finding it quite difficult or very difficult to manage on their current finances had a relatively poor quality of life. Perception of own health had the highest correlation with the PGCMS and with the single-item measure of any of the independent variables.

Multiple linear regression

For the SWLS, five of the 13 variables entered in the initial model remained as significant predictors in the final model: satisfaction with neighbourhood, perception of poverty over time, perception of own health, perception of managing financially and loneliness (Table 5). These
variables were inversely related to the SWLS and together they accounted for 33 per cent of the variance in SWLS scores. Loneliness was the strongest predictor, as judged by the standardised regression coefficients. For the PGCMS, six variables emerged as significant predictors: victim of crime, perception of poverty over time, perception of own health, ability to manage financially, loneliness, and feeling isolated from society (Table 5). All the predictors were inversely related to the PGCMS, and in combination accounted for 45 per cent of the variance in PGCMS scores. Perception of own health was the strongest predictor, as judged by the standardised regression coefficients.

Ordinal regression

In the ordinal regression model, the four variables that emerged as significant predictors of the single-response quality of life item were: perception of poverty over time \((p=0.003)\), perception of own health \((p<0.0005)\), perceived ability to manage financially \((p<0.0005)\), and loneliness \((p<0.0005)\). The Nagelkerke pseudo-\(R^2\) for the final model was 0.501, and the model correctly predicted 59 per cent of responses on the quality of life scale. Individual parameter estimates from ordinal regression cannot be straightforwardly interpreted and are not therefore presented, but the Wald statistics for the predictors suggest that perception...
of own health was a stronger predictor than perception of managing finances and loneliness, and that perception of poverty over time was the weakest of the four predictors.

Discussion

This article has addressed questions concerning both the determinants of the quality of life of older people in deprived urban areas and the measurement of quality of life. In relation to the former issue, our analysis has cast doubt on the ability of socio-demographic and objective variables to predict quality of life in a deprived area sample – this corroborates other studies that have pointed to the important role played by subjective variables. All the subjective measures that have been examined produced a small to large correlation with the three quality of life measures, which compares with the null or low associations with the socio-demographic measures and the low to medium correlations with the objective life-condition variables. Both the multiple linear and ordinal regressions indicated that the significant predictors of the three quality of life measures were subjective variables. Given that the sample mainly comprised respondents with low income, limited educational attainment and high levels of deprivation, this finding is unsurprising. A more diverse sample would have allowed greater scope to explore the relationship between socio-demographic characteristics and both the subjects’ objective life condition and their quality of life experiences.

It should however be noted that several investigators have recognised the importance of subjective evaluations over objective life conditions (Campbell, Converse and Rodgers 1976; Smith et al. 1999; Bowling and Windsor 2001). Bowling and Windsor (2001) found that objective variables accounted for very little of the variance in quality of life, that socio-demographic variables accounted for only five per cent, and that subjective variables accounted for more than double that of the objective variables, ‘indicating the relative importance of self-nominated “important areas of life” over theoretically important, objective variables’ (2001: 55). As previous studies have found, this study has shown that individuals’ perception of their own health, perceived ability to manage financially, perception of poverty over time and feelings of loneliness were important determinants of the quality of life of people aged 60 and more years across the three measures. Michalos and Zumbo (2002) found that ‘health does not have a direct effect on satisfaction within the overall quality of life but rather only an indirect effect through health satisfaction’ (2002: 321). As Dukeov et al. (2001) showed, concern about financial resources affected
the wellbeing of older people; and as Bramston, Pretty and Chipuer 2002 found, individuals’ level of loneliness had the greatest impact on subjective quality of life.

A finding of particular interest was the role played by environmental factors in older people’s quality of life. The influential markers were experience of crime, fear of crime, and satisfaction with the neighbourhood. It was anticipated that high rates of reported crime, a widespread fear of crime, and concern about a range of other social problems would directly affect individuals’ quality of life. It turned out, however, that only satisfaction with neighbourhood and being a victim of crime were significant predictors (and these variables were the weakest predictors in their respective models) (see Table 5). It should not be concluded that environmental factors have little relevance to individual wellbeing, for these results add weight to other research that has emphasised the complexity of environmental influences (Sirgy and Cornwell 2002). Bramston, Pretty and Chipuer (2002) have suggested that neighbourhood variables might only exert an indirect impact on quality of life. In relation to the findings reported here, the effect of the environmental variables on quality of life may have been mediated through other variables, such as individual perception of health and perceived ability to manage financially. It might also be the case that loneliness is a particular characteristic of deprived urban neighbourhoods (Scharf et al. 2002).

The second theme of this article has been the measurement of quality of life. The multiple linear regressions of SWLS and PGCMS and the multiple ordinal regression of the single-item quality of life measure all identified four important determinants: perception of health, perception of managing financially, perception of poverty over time and loneliness. The high reported correlations, the similar shared variances, and the similar predictors indicate that each instrument represents similar constructs of wellbeing – albeit for a non-representative sample of older people. Given that the highest goodness-of-fit measure for the regression models was 0.5, it is possible that the quality of life measures also measured additional and unspecified dimensions of quality of life.

Finally, the analysis has suggested that in future studies the single-item question might represent an appropriate means of measuring the determinants of the quality of life. It compared well with longer validated measures and had the distinct advantage of being simpler to administer. This might prove an important consideration for future quality of life research, where constraints of questionnaire length and interview duration apply. It would also be useful to develop comparable studies that explore aspects of older people’s quality of life in different environmental settings to validate these findings.
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NOTES

1 The terms quality of life, life satisfaction, and wellbeing are used interchangeably in this article. The authors are aware of the criticisms made of this practice (see Veenhoven 2000).
2 The MONICA classification, developed by CACI Ltd, assigns people to age bands according to the likelihood that their first name belongs to a particular birth cohort (details at: http://www.caci.co.uk).
3 The response rate reflects the inherent challenges of undertaking research in disadvantaged neighbourhoods, including high population turnover and above-average rates of mortality. Additionally, non-response and non-contact are influenced by high rates of crime, and fear of crime amongst older people.
4 The questionnaire can be accessed at: http://www.shef.ac.uk/uni/projects/gop/question.pdf
5 The coefficient of determination, \( r^2 \), was also calculated. By analogy with its parametric equivalent, this statistic can be interpreted as approximating to the proportion of variation in one variable that is explained by variation in the other variable.
6 Like the coefficient of determination (\( R^2 \)), this statistic takes a maximum value of ‘1’, but it differs in that it cannot strictly be interpreted in terms of the proportion of variance in the outcome variable accounted for by the predictors. For models of comparable adequacy, the Nagelkerke statistic in ordinal regression tends to be lower than the \( R^2 \) in multiple linear regression (Hosmer and Lemeshow 2000).
7 According to Cummings, Stewart and Hulley (2001), values of Cronbach’s alpha greater than 0.70 are considered acceptable, and those above 0.80 excellent.

References


Hannan Foundation 2001. *The Hannan Study of Older Adults in Detroit’s Central City*. Final Report to the Luella Hannan Memorial Foundation Board of Directors, Center for Health Care Effectiveness, Wayne State University School of Medicine, Detroit, Michigan.


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