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# Perceptions of active ageing in Britain: divergences between minority ethnic and whole population samples

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## Abstract

**Objective:** to identify perceptions of, and associations with, active ageing among ethnically diverse and homogeneous samples of older people in Britain.

**Design and setting:** cross-sectional and longitudinal surveys of older people living at home in Britain.

**Measures:** active ageing, health, psych-social, socio-economic circumstances, and indicators of quality of life.

**Results:** respondents defined active ageing as having health, fitness, and exercise; psychological factors; social roles and activities; independence, neighbourhood and enablers. The ethnically diverse sample respondents were less likely to define active ageing as having physical health and fitness, and were less likely to rate themselves as ageing actively, than more homogeneous sample respondents. The lay-based measure of quality of life used was independently and consistently associated with self-rated active ageing in each sample

**Conclusion:** Policy models of active ageing were reflected in lay views, although the latter had a more multidimensional focus. Lay definitions of active ageing were also more dynamic, compared with definitions of quality of life and successful ageing. Differences in self-rated active ageing and perceptions of this concept by ethnic group need further exploration.

**Keywords:** active ageing, ethnicity, old age, quality of life, successful ageing, elderly

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### Background

With population ageing and increased longevity, there is international policy interest in promoting 'active ageing' [1, 2]. Conceptual agreement of this concept is important for the evaluation of public policy. Government policies focus on helping people to remain 'active' in older age in order to increase their economic contribution to society [3], reminiscent of the concept 'productive ageing', which focuses on employment [4]. Current definitions of active ageing include having social, psychological and physical health, autonomy, independence [5], empowerment and having meaningful pursuits [6]. These reflect social theories emphasising social activity, continuity of values, roles and relationships in older age for enhanced life satisfaction [7–10]. In support, the Longitudinal Aging in Manitoba Study reported associations between greater social activity and better physical and psychological outcomes [11]. However, social theory has veered away from emphasising the volume of activities, to a model stressing adaptation to the challenges of ageing by substitution and redistribution of activities for 'successful ageing' [12].

Despite policy emphasis on promoting active ageing [2–3, 5, 13], and the large psycho-social literature aiming to test 'activity theory', there is a dearth of conceptual literature on 'active ageing' *per se*, in contrast to related concepts of successful ageing [14–16] and quality of life (QoL) [17–19]. The conceptual literature on active ageing is limited to a short survey of lay views [13] and a theoretical model of active ageing, proposing a multidimensional, multi-level model [20]. Active ageing is not necessarily synonymous with successful ageing and QoL, which have a broader focus. A systematic review of the literature on successful ageing [16] revealed that biomedical models emphasised physical and mental functioning, socio-psychological models emphasised social functioning, life satisfaction and psychological resources as successful ageing, and lay models reflected components of each, consistent with their perspectives of QoL [21].

Lay views are important to investigate in order to ensure that models of active ageing, and policies promoting these, have social significance, and to minimize the danger that definitions reflect mainstream cultural expectations for the behaviour of older people. The approach taken here shifts the paradigm of conceptual development towards an approach grounded in the perspective of the older person, consistent with earlier approaches to measuring successful ageing [15] and QoL [19].

### Aim

This study aimed to examine self-rated active ageing among ethnically diverse and more ethnically homogeneous samples of older people in Britain. The research questions were as follows: Are there differences in definitions, and self-ratings, of active ageing between ethnically diverse and more ethnically homogeneous samples of older people? What factors are associated with self-rated active ageing?

### Methods

Three surveys of QoL and active ageing were undertaken in 2007–8:

- (i) A face-to-face, cross-sectional, interview survey with people aged 65+ responding to two waves of the Ethnibus Surveys (<http://www.ethnibus.com>). This is a rolling face-to-face interview survey with adults aged 16+, living at home, based on a stratified random sample of postal sectors, targeting common ethnic minority populations in Britain: Indian, Pakistani, Caribbean, Chinese people. Sample boosting on the doorstep of sampled households by interviewers was used to include greater numbers of people aged 65 and over in these groups. Invitations for interviews continued until target was achieved. The response rate among people aged 65+ was 70%.
- (ii) A face-to-face cross-sectional, interview survey with people aged 65+ responding to two waves of the Office for National Statistics (ONS) Omnibus Survey (<http://www.statistics.gov.uk>). This is a rolling face-to-face interview survey with adults aged 16+, living at home, based on a stratified random sample of postcodes across Britain. The overall response rate to the Omnibus surveys was 62%.
- (iii) A postal follow-up survey of the longitudinal, national random sample of people aged 65+, living at home in Britain, who first responded to four waves of an ONS Omnibus, face-to-face interview survey about QoL during 1999/2000. The sample was based on a stratified random sample of postcodes across Britain. The response rate to the follow-up, when they were aged 74+, was 58%. Details of sampling are given in *Appendices 1–3 in the supplementary data on the journal website* <http://www.ageing.oxfordjournals.org/>. The advantages of mounting three surveys was to enable comparisons between ethnically diverse and more ethnically homogeneous, samples of older people, and to make comparisons with a longitudinal sample.

### Measures

The measures of active ageing, which aimed to elicit respondents' own perceptions of this concept, and their self-ratings [13], were

**What, in your opinion, are the things associated with 'active ageing'?** You can say as many things as you like. There are no right or wrong answers. We are interested in your own views:

**Thinking of the things that you have listed as associated with active ageing, would you say you are ageing 'actively' so far?** [Yes, very actively/ Yes, fairly actively/ Neither actively or inactively/ No, not actively/ No, not at all actively].

QoL measures included the multidimensional Older People's Quality of Life Questionnaire (OPQL) (*Bowling and Stenner submitted for publication*), the CASP-19 [23] and WHOQOL-OLD [24] (the latter were asked in the Ethnibus and Omnibus surveys only). Cronbach's alphas for the OPQOL exceeded  $\alpha$ : 0.70 threshold for acceptability in each sample. Validated measures of self-rated global QoL, health, psycho-social circumstances and standard socio-demographic items [13, 17] were included. The questionnaire was assessed for interpretation and acceptability with focus groups reflecting ethnic diversity.

## Statistical analysis

Frequency distributions, chi-square tests, Spearman's rho correlations and multiple regression analyses were used to examine associations with self-rated active ageing [25]; tests for multicollinearity were satisfied.

## Results

### Characteristics of samples

Between 52 and 54% of each sample comprised women. While 91% (363) of the Ethnibus sample were aged 65 < 75 (in reflection of the younger age distributions of ethnic populations in Britain), 55% (326) of the ONS Omnibus sample, and 17% of the QoL follow-up sample, were aged 65 < 75. The remainder were aged 75+. Few (5%/19) of Ethnibus respondents lived alone; almost half of the ONS and QoL follow-up samples lived alone (48%/286 and 49%/137 respectively). Few ONS Omnibus, and no QoL follow-up sample, respondents were ethnic minorities. Over half of each sample rated their health from 'Good' to 'Excellent' rather than 'Fair' or 'Poor'; although fewer Ethnibus respondents did so, despite their younger ages. Almost three-quarters of Ethnibus respondents' OPQOL scores were in the worst two categories (poor QoL), compared with under half of the other samples (please see *tables in Appendices 4–5 in the supplementary data on the journal website <http://www.ageing.oxfordjournals.org/>*).

### Active ageing

The most common definition of active ageing given was exercising the body. ONS respondents (33%/192) and QoL follow-up survey respondents (26%/75) were most likely to mention this, while Ethnibus respondents (17%/67) were least likely to (chi-square: 30.96, 2df,  $P < 0.0001$ ). Having good health/physical functioning was next most commonly mentioned—fewer (7%/27) Ethnibus respondents mentioned this, compared with ONS (22%/130) and QoL follow-up (27%/22) respondents (chi-square: 56.13, 2df,  $P < 0.0001$ ). Keeping/staying physically active by moving about was mentioned by fewer Ethnibus respondents (5%/21), compared with 22% (461) of ONS and 19% (55) QoL follow-up respondents (chi-square: 600.92, 2df,  $P < 0.0001$ ). Exercising the mind was mentioned by 3% (397)

of Ethnibus respondents, compared with 12% (68) of ONS and 14% (39) QoL follow-up respondents (chi-square: 46.84, 2df,  $P < 0.0001$ ). However, having psychological resources (e.g. being in control)/attitudes (e.g. positive thinking) was mentioned by more Ethnibus (15%/59) than ONS (7%/39) and QoL follow-up (8%/23) respondents (chi-square: 19.27, 2df,  $P < 0.0001$ ). (Please see *Appendix 6 in the supplementary data on the journal website <http://www.ageing.oxfordjournals.org/>*).

The samples varied by whether they undertook activities to maintain active ageing. While over 80% in each sample reported engaging in three or more social activities in the past month, just under a third of ONS Omnibus and QoL follow-up survey respondents reported engaging in physical activities, although just under two-thirds of Ethnibus respondents reported that they did so. This difference was due to the Ethnibus sample reporting doing more activities such as yoga and meditation. When asked specifically about going for a walk or gardening in the last month, significantly fewer—about a quarter—of Ethnibus respondents reported this, compared with about three-quarters of the others (see earlier table in *Appendix 4*).

Few, 40% (158), Ethnibus respondents, rated themselves as ageing 'very' or 'fairly' actively (as opposed to 'not' or 'not at all' actively, or 'neither'). In contrast, 85% (494) and 78% (212) of the ONS Omnibus and QoL follow-up respondents, respectively, did so (chi-square test 100.66, two degrees of freedom,  $P < 0.0001$ ).

As expected, correlations showed that self-ratings of more optimum levels of active ageing were associated with more optimal QoL. In the Ethnibus, ONS Omnibus and QoL follow-up samples, respectively, Spearman's rho correlations between self-rated active ageing and the total scores for the OPQOL were modest to strong at  $-0.358$ ,  $-0.504$  and  $-0.575$  (all  $P < 0.001$ ). In the Ethnibus, ONS Omnibus samples, respectively, the Spearman's rho correlations between self-rated active ageing and the total scores for the CASP-19 were modest at  $-0.241$  and  $-0.469$  (both  $P < 0.01$ ), and for the WHOQOL-OLD were weak to modest:  $-0.069$  (not significant) and  $-0.439$  ( $P < 0.01$ ) (the inverse correlations reflect the direction of coding, and are all in the expected direction of more optimum active ageing being associated with more optimum QoL).

Higher levels of self-rated active ageing were weakly to moderately correlated with more optimal health and physical functioning in each sample; and with more social support in the ONS Omnibus and QoL follow-up samples, but not Ethnibus sample. The greater number of different social activities undertaken in the last month was moderately to strongly correlated with more active ageing in the ONS Omnibus and QoL follow-up samples. Additional items asked in the longitudinal, QoL follow-up survey (for comparison with baseline items) show that greater levels of self-rated active ageing correlated moderately with younger subjective age, lower health service use, higher self-efficacy and reduced loneliness (please see *tables in Appendices 7–9 in the supplementary data on the journal website <http://www.ageing.oxfordjournals.org/>*). Detailed analyses of the Ethnibus sample showed that Chinese people were far

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**Table 1.** Multiple regression of independent associations with self-rated active ageing+ETHNIBUS sample

Independent variables	Unstandardised b	Standardised beta	95% CI	2-tailed <i>t</i> -test	<i>P</i> =
<b>Block 1</b>					
OPTOL-35 total	-0.035	-0.342	-0.021 – 0.005	-5.584	0.0001
CASP-19 total	-0.020	-0.096	-0.019 – 0.010	-1.643	0.101 <sup>ns</sup>
WHOQOL-OLD 24 total	0.022	0.130	-0.015 – 0.003	2.444	0.015 <sup>ns</sup>
<b>Block 2</b>					
Total number of relatives, friends, neighbours who would help with practical tasks	-0.002	-0.012	-0.008 – 0.005	-0.247	0.805 <sup>ns</sup>
Total no. of different social activities done at least monthly (out of listed 8)	-0.060	-0.075	0.124 – 0.033	-1.585	0.114 <sup>ns</sup>
<b>Block 3</b>					
ADL total score (sum of ability to walk 400 yards, do heavy housework, shop/carry heavy bags, steps/stairs)	0.025	0.083	0.027 – 0.075	1.484	0.139 <sup>ns</sup>
Self-rated health status, compared to others of same age	0.104	0.096	0.053 – 0.217	1.635	0.103 <sup>ns</sup>
<b>Block 4</b>					
Age	-0.010	-0.035	0.005 – 0.017	-0.768	0.443 <sup>ns</sup>
Sex	-0.021	-0.010	-0.254 – 0.020	-0.207	0.836 <sup>ns</sup>
Marital status	0.021	0.016	-0.116 – 0.010	-0.337	0.736 <sup>ns</sup>
Housing tenure	0.004	0.004	-0.074 – 0.065	0.090	0.928 <sup>ns</sup>
Constant	6.225				
<i>R</i> <sup>2</sup>	0.192				
Adjusted <i>R</i> <sup>2</sup>	0.169				
ANOVA <i>F</i> statistic	8.381				0.0001

<sup>+</sup>“Thinking of the things you have listed as associated with active ageing, would you say you are ageing ‘actively’ so far?”

ns: not statistically significant at least the 0.05 level.

CI: confidence interval.

more likely to rate themselves as ageing ‘very actively’: 27% (12), compared with 9% (11) of Pakistani people, 6% (5) of Caribbean people and 5% (7) of Indian people (chi-square 31.158, 12 degrees of freedom,  $P < 0.01$ ).

Resourcefulness for active ageing was examined in the older, QoL follow-up sample, who were asked an open-ended question about coping with challenges in older age. Most (64%, 184) reported methods of coping, mainly relating to their psychological outlook (acceptance of situations, ‘getting on with life’, keeping a sense of humour) (23%, 67); keeping socially active (15%, 44); seeking help, support and advice from others when needed (14%, 39); self-compensating (e.g. doing things that are difficult more slowly; using strategies to aid declining memory; using different techniques for physical activities to avoid pain) (11%, 33); paying other people to do things they could no longer do (8%, 22), and ‘using/not being ashamed to use’ gadgets, aids, rails, walking sticks) (5%, 13). When asked about how other people could be helped to age actively, their most common responses were engaging in social (27%, 76) and physical (9%, 27) activity; access to good transport (9%, 27); and having a positive psychological attitude/outlook (9%, 25);

### Multiple regression

Comparable multivariable analyses were conducted for each of the three survey samples presented here, in order to examine independent associations with self-rated active ageing. It was hypothesised that more active ageing would be associated with optimum levels of QoL; informal help, social activities; physical functioning (activities of daily living—ADL) and health, controlling for age, sex, marital status, housing tenure.

Table 1 shows that optimal QoL (OPQOL only) was independently associated with more active ageing in the Ethnibus sample. The model explained 17% of the variance in self-rated active ageing ( $R^2 = 0.169$ ). The comparable model for the ONS Omnibus sample explained 41% of the variance ( $R^2 = 0.414$ ) (Table 2); more optimal QoL (OPQOL only) was independently associated with more active ageing; also associated were greater social activity, good physical functioning, better health and housing tenure (owner occupied rather than rented). Table 3 shows the cross-sectional model for the QoL follow-up sample, which explained 55% of the variance in self-rated active ageing ( $R^2 = 0.550$ ). More optimum QoL (OPQOL) was associated with more active ageing,

**Table 2.** Multiple regression of independent associations with self-rated active ageing+ONS sample

Independent variables	Unstandard-ised b +	Standard-ised beta	95% CI	2-tailed t-test	P =
<b>Block 1</b>					
OPTOL-35 total	-0.013	-0.189	-0.021 - 0.005	-3.229	0.001
CASP-19 total	-0.005	-0.038	-0.019 - 0.010	-0.620	0.536 <sup>ns</sup>
WHOQOL-OLD 24 total	-0.006	-0.073	-0.015 - 0.003	-1.341	0.180 <sup>ns</sup>
<b>Block 2</b>					
Total number of relatives, friends, neighbours who would help with practical tasks	-0.001	-0.013	-0.008 - 0.005	-0.377	0.706 <sup>ns</sup>
Total number of different social activities done at least monthly (out of listed 8)	-0.079	-0.154	0.124 - 0.033	-3.412	0.001
<b>Block 3</b>					
ADL total score (sum of ability to walk 400 yards, do heavy housework, shop/carry heavy bags, steps/stairs)	0.051	0.208	0.027 - 0.075	4.170	0.0001
Self-rated health status, compared to others of same age	0.135	0.154	0.053 - 0.217	3.241	0.001
<b>Block 4</b>					
Age	0.006	0.044	0.005 - 0.017	1.116	0.265 <sup>ns</sup>
Sex	-0.117	-0.060	-0.254 - -0.020	-1.683	0.093 <sup>ns</sup>
Marital status	-0.053	-0.061	-0.116 - 0.010	-1.661	0.097 <sup>ns</sup>
Housing tenure	-0.004	-0.004	-0.074 - 0.065	-0.121	0.904 <sup>ns</sup>
Constant	3.863				
R <sup>2</sup>	0.427				
Adjusted R <sup>2</sup>	0.414				
ANOVA F statistic	33.592				0.0001

+CI: confidence intervals for unstandardised b.  
 ns: not statistically significant at least the 0.05 level.

**Table 3.** Hierarchical multiple regression of independent associations with self-rated active ageing: QoL follow-up sample (cross-sectional model)

Independent variables	Unstandard-ised b <sup>+</sup>	Standard-ised beta	95% CI	2-tailed t-test	P =
<b>Block 1</b>					
OPTOL-32 total	-0.019	-0.269	-0.028 - 0.009	-3.905	0.0001
<b>Block 2</b>					
Total number of relatives, friends, neighbours who would help with practical tasks	0.002	0.011	-0.014 - 0.017	0.207	0.836 <sup>ns</sup>
Total number of different social activities done at least monthly (out of listed 8)	-0.122	-0.237	-0.188 - 0.056	-3.656	0.0001
<b>Block 3</b>					
ADL total score (sum of ability to walk 400 yards, do heavy housework, shop/carry heavy bags, steps/stairs)	0.058	0.217	0.021 - -0.095	3.102	0.002
Self-rated health status, compared to others of same age	0.175	0.184	0.042 - 0.307	2.603	0.010
<b>Block 4</b>					
Age	0.004	0.027	-0.012 - 0.020	0.519	0.605 <sup>ns</sup>
Sex	0.084	0.043	-0.111 - 0.280	0.849	0.397 <sup>ns</sup>
Marital status	-0.048	-0.050	-0.144 - 0.048	-0.991	0.323 <sup>ns</sup>
Housing tenure	0.019	0.018	-0.083 - -0.120	0.364	0.716 <sup>ns</sup>
Constant	3.961	—	—	—	—
R <sup>2</sup>	0.569	—	—	—	—
Adjusted R <sup>2</sup>	0.550	—	—	—	—
ANOVA F statistic	29.431	—	—	—	0.0001

+CI: confidence intervals for unstandardised b.  
 ns: not statistically significant at least the 0.05 level.

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as were greater social activity, better physical functioning and health.

The QoL follow-up survey sample was used to examine a longitudinal model of active ageing. Optimal levels of baseline QoL, health and functioning were significantly associated with more active ageing at follow-up; the model explained 54% of the variance (adjusted  $R^2 = 0.544$ ). When follow-up variables were entered, none of the baseline variables retained significance. Optimum levels of follow-up QoL (OPQOL), health, functioning, and social participation were associated with more active ageing at follow-up, explaining almost two-thirds of the variance in follow-up self-rated active ageing (adjusted  $R^2 = 0.639$ ) (see Table 4).

## Discussion

It is important to investigate lay views in order to ensure that models of active ageing, and policies designed to enhance it, have social significance and achieve desired outcomes. The most commonly mentioned view of active ageing was exercising the body in order to retain health, although Ethnibus respondents were less likely to mention this. Comparisons of lay definitions of active ageing, successful ageing and QoL [13–19] show considerable overlap between these concepts. Common to each were physical health and functioning, social relationships and engagement, mental and psychological functioning and resources. While policy definitions of active ageing focus on economic activity, with an end-point of enhanced QoL, work was rarely mentioned by older people in relation to these concepts. Active ageing was often portrayed dynamically here (e.g. actively maintaining health); QoL and successful ageing have been portrayed by older people more as ‘states of being’ [13,16,17]. This is consistent with models which propose QoL as the end-point of active and successful ageing [3,5]. The regression models showed that optimal levels of multidimensional QoL (OPQOL) were consistently associated with more active ageing in each sample, although the direction of cause and effect cannot be confirmed. Distinguishing between these concepts is important for clear public policy and outcome assessment. Methods of coping also have policy implications for facilitating resourcefulness in later life, for example by developing active ageing programmes which focus on physical activity, psychological outlook, social engagement and timely help seeking.

The models explained less of the variance in self-rated active ageing in the Ethnibus sample than in the more homogeneous samples. This may be due to the diversity of the ethnic groups included in the Ethnibus sample. The differences in self-rated active ageing by ethnic group also require qualitative research to provide insight on values as well as reporting behaviours. The lack of significance of socio-demographic characteristics in the models reflect research on self-rated QoL [17]. The sensitivity of the OPQOL is likely to reflect its multidimensionality, and its item generation by older people themselves, enhancing its social significance.

These data need cautious interpretation as they relate to the successful (fittest) survivors and excluded the frailest populations with weaker social support, living in care homes and institutions [6]. Finally, while the Ethnibus sample was based on systematic sampling of postcode sectors, additional sample boosting on doorsteps by interviewers was used. It is acknowledged that this is a limitation, but there are no other methods of adequately sampling ethnic minority groups in population surveys.

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## Key points

- Significantly fewer of the ethnically diverse, survey respondents (40%) rated themselves as ageing actively, compared with respondents to the two more ethnically homogeneous surveys (85% and 78% respectively).
- The ethnically diverse respondents were less likely than others to define active ageing in terms of good physical health and fitness, and exercise to promote this.
- Within the ethnically diverse sample, 27% of Chinese people (27%) reported optimum levels of active ageing, compared with 9% of Pakistani, 6% of Caribbean and 5% of Indian people.
- The lay-based, multidimensional measure of quality of life of older people (OPQOL), was a significant, independent predictor of self-rated active ageing.

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## Ethical approval

The 2007–8 study was granted ethical committee consent to proceed by University College London Research Ethics

**Table 4.** Hierarchical multiple regression of baseline (1999–2000) and follow-up (2007–8) variables: independent associations with self-rated active ageing; QoL follow-up sample (longitudinal model)

Independent variables	Unstandardised b <sup>+</sup>	Standardised beta	95% CI <sup>+</sup>	2-tailed t-test	P <sup>+</sup>
<b>Baseline 1999–2000 variables</b>					
Self-rated quality of life	0.166	0.162	0.031 – 0.301	2.433	0.016
Self-rated health status	0.244	0.267	0.111 – 0.377	3.628	0.001
Physical functioning score	0.145	0.190	0.035 – 0.255	2.605	0.010
Feels safe walking alone during day in neighbourhood	0.211	0.160	0.052 – 0.370	2.619	0.09
No. of different social activities done in last month	-0.065	-0.031	-0.334 – 0.205	-0.475	0.636
Self-efficacy score	0.042	0.044	-0.080 – 0.164	0.686	0.493
Constant	0.417				
R <sup>2</sup>	0.566				
Adjusted R <sup>2</sup>	0.544				
ANOVA F statistic	0.001				
<b>Final model: baseline 1999–2000 variables</b>					
Self-rated quality of life	0.041	0.040	-0.071 – 0.153	0.721	0.472
Self-rated health status	-0.038	-0.049	-0.143 – 0.067	-0.709	0.479
Physical functioning score	0.042	0.045	-0.081 – 0.165	0.676	0.500
Feels safe walking alone during day in neighbourhood	-0.027	-0.020	-0.161 – 0.108	-0.389	0.697
No. of different social activities done in last month	0.078	0.038	-0.147 – 0.303	0.685	0.494
Self-efficacy score	0.019	0.020	-0.081 – 0.119	0.375	0.708
<b>Follow-up 2007–8 variables</b>					
OPQOL-32 total score	-0.017	-0.246	-0.028 – 0.007	-3.230	0.001
Self-rated health status	0.220	0.224	0.075 – 0.364	3.002	0.003
Physical functioning score	0.060	0.225	0.019 – 0.101	2.866	0.005
No. of different social activities done in last month	-0.117	-0.227	-0.186 – 0.048	-3.364	0.001
Age	-0.001	-0.003	-0.017 – 0.016	-0.063	0.950
Sex	0.036	0.018	-0.166 – 0.237	0.351	0.726
Socio-economic status <sup>+++</sup>	0.019	-0.039	-0.068 – 0.030	-0.768	0.443
Constant	3.789				
R <sup>2</sup>	0.568				
Adjusted R <sup>2</sup>	0.639				
ANOVA F statistic	0.001				

<sup>+</sup>CI: confidence intervals for unstandardised b.

<sup>+++</sup>NS-SEC at baseline.

Committee; the earlier QoL surveys were approved by the Office for National Statistics Ethics Committee and London MREC.

**Conflicts of Interest**

All authors declare that they have nothing to declare and no financial interests. AB. Ann Bowling had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the analyses.

**Supplementary data**

Supplementary data mentioned in the text are available at *Age and Ageing* online.

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