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# The relative influence of neighbourhood incivilities, cognitive social capital, club membership and individual characteristics on positive mental health



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## ABSTRACT

Previous research indicates that residents' perceptions of their neighbourhoods can have an adverse influence on their health and wellbeing over and above the influence of structural disadvantage. Contrary to most prior research, this study employed an indicator of positive wellbeing and assessed the impact of individual characteristics, perceived social and environmental incivilities, indicators of cognitive and structural social capital, and perceived safety. Analyses of data from a large regional UK representative study ( $n=8237$ ; 69.64% response rate) found the most influential determinants of wellbeing were physical health problems, age, SES and cognitive social capital. Smaller, significant effects were also found for environmental and social incivilities, and for perceived safety. The effect of cognitive social capital was moderated by age, with a stronger effect found among those aged 65 years and over than among younger participants. Findings indicate that the promotion of positive mental health within communities may be facilitated by efforts to foster a greater sense of belonging among residents, and that older adults may benefit most from such efforts.

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## 1. Introduction

Over the past two decades, the pace at which researchers have sought to uncover how local environments and the contexts in which we live relate to our health and wellbeing has quickened. Consideration of how built and social environments interact with individual factors to influence health and bring about health inequalities has been of particular interest. By now, it has become apparent that while individual characteristics and behaviours are distinctly important, the community settings in which people reside also exert influences on the life chances of residents. An ever-expanding body of research thus points to place/community effects on physical health (e.g. Curtis and Rees Jones, 1998; Cummins et al., 2005; Ellaway et al., 2001; Pickett and Pearl, 2001; Wilson et al., 2004) and mental health (see Truong and Ma (2006) and Chu et al. (2004) for reviews). Some researchers, however, caution that individual and household characteristics are more influential than neighbourhood features on levels of common

mental disorders (Propper et al., 2005) while others argue that individual-level and place characteristics should not be conceptualised as 'independent' from each other (Cummins et al., 2007). In this way Cummins et al. (2007) relational view of place and space emphasises a dynamic and mutually reinforcing the inter-relationship between psychological, social and physical aspects of the environment.

A particular focus of research in this domain has been consideration of the extent to which deprivation interacts with place to compound the negative impact on health and wellbeing for people already facing socioeconomic disadvantage. Sooman and Macintyre (1995), for example, found that residents from advantaged local areas in Glasgow (UK) had positive views of their local areas, and that these perceptions were related to comparatively lower levels of self-reported anxiety and depression. Conversely, Ross (2000) found that depression levels in disadvantaged local areas with a high proportion of female-headed households were mediated by perceived neighbourhood disorder, while Silver et al. (2002) found that neighbourhood disadvantage was associated with depression and substance abuse. A study by Haney (2007) explored the relative importance of objective measures of poverty vis-à-vis perceived neighbourhood disorder on self-esteem. Haney found that while perceived incivilities do not replace the association between poverty and self-esteem, the

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relationship is actually stronger in magnitude. He argues that blighted neighbourhoods and the stigma attached to them is internalised by residents and becomes part of their psychological make-up.

Research has also considered the diverse types of incivilities that people experience. Distinctions are generally drawn between physical (e.g. quality of physical environment) and social (e.g. issues such as levels of vandalism/graffiti) forms of these problems. Ellaway et al. (2009) found that physical street-level incivilities and the perceived absence of environmental goods (e.g. children's play areas) were linked to anxiety, depression and poorer general health, while large-scale incivilities such as telephone masts were of lesser importance in shaping self-reported health outcomes. It is not only the manner in which the physical environment is perceived by local area residents that appears important in shaping wellbeing; Other significant influences are social capital and perceptions of safety (e.g. Austin et al., 2002; Baum et al., 2009; De Jesus et al., 2010; Franzini et al., 2005; Miles, 2008). Social relationships, or social capital, act as protective factors (Elliot, 2000; Gidlow et al., 2010; Kim, 2010; Kim and Ross, 2009; Mair et al., 2010) and findings by Nyqvist et al. (2008) indicate that cognitive aspects of social capital (i.e., a sense of trust) are predictors of wellbeing, while structural aspects (i.e., participation in social activities and social contacts) are not. However, a recent study in Japan by Hamano et al. (2010) found that both high levels of cognitive social capital, measured by trust, and also high levels of structural social capital, measured by membership of recreational groups, were associated with increased mental health after adjusting for demographic variables.

Despite progress that has been made in examining place effects on health and the role that physical attributes of the environment influence mental health both directly or via its determinants (e.g. social relations) (see Atkinson et al., 2012; Curtis, 2010; Williams, 2007), the mechanisms through which social and environmental factors interact to influence wellbeing remain in need of further clarification (Aneshensel and Sucoff, 1996; Macintyre et al., 2002; Wood and Giles-Corti, 2008). The increasingly recognised importance of people's subjective impressions of and engagement with the localities in which they spend their time (Atkinson et al., 2012) underpins the use of a subjective measure of the local neighbourhood in this study, specifically perceived environmental and social incivilities. Existing literature regarding place effects on mental health is also characterised by studies which tend to utilise scales that measure psychological problems (see Schaefer-McDaniel et al., 2010) such as depression or anxiety. Rather than focusing on mental ill-health it is also useful to investigate how positive wellbeing may be shaped by the physical and social environments people inhabit (Bond et al., 2012). Furthermore, Seaman et al. (2010) suggest that this relationship may be reciprocal in that improved wellbeing facilitates greater access to community health enhancing resources, such as parks and greenspace which in return benefits both individual outcomes, as well as levels of community social cohesion and capital.

Wellbeing has been conceptualised in one of two ways. The hedonic view assesses wellbeing via emotional states, such as happiness while the eudaimonic view emphasises satisfaction and human flourishing over time (Conradson, 2012; Deci and Ryan, 2008). It has been recommended that the two concepts are integrated, recognising the value of both (Henderson and Knight, 2012; Huta and Ryan, 2010). The current study therefore utilises a scale that incorporates both of these wellbeing conceptualisations (Tennant et al., 2007).

Our study builds on a recent investigation by Gale et al. (2011) who examined the effects of neighbourhood on positive mental health in older people. Utilising a cross-sectional postal-survey design, they found that older adults (aged between 69 and 78

years) with a strong sense of social cohesion, and a positive perception of their neighbourhood were more likely to exhibit positive mental health. This was independent of socioeconomic status (SES), income, health status and perceived social support. They point out that perceptions of neighbourhood characteristics are likely to be more influential on wellbeing for older people "... because such individuals are less likely to go out to work and have an increased risk of mobility limitations" (Gale et al., 2011, p. 867). The relationship between perceptions of place and wellbeing may therefore differ in the general population, which has yet to be explored using a quantitative measure of positive mental health. Our study is the first to investigate whether the findings of Gale and colleagues (2011) extend to a general population sample, and systematically investigates a model that seeks to establish the relative importance of a variety of social and environmental factors on wellbeing. We hypothesised that positive mental wellbeing would be influenced by the degree of integration with others in the area, the perception of problems in the neighbourhood and how safe individuals felt. Our analyses controlled for sex, age, SES, length of residence in current neighbourhood, whether participants were members of social clubs, and self-reported physical health problems.

## 2. Methods

The secondary data analyses reported in this paper is based on data obtained from a sample of residents in Glasgow (Scotland) and the surrounding region. Glasgow experiences relatively high levels of poor health and deprivation and is sometimes referred to as the 'sick man' of Europe. Even compared to similarly deprived cities in the UK, Glasgow experiences elevated mortality rates across all age groups (except the very young), often referred to as the "Glasgow effect" (Walsh et al., 2010). The data were obtained from the 2008 Health and Wellbeing Study conducted by NHS Greater Glasgow and Clyde, UK. The study utilised a multi-stage stratified random sampling technique and was conducted using computer assisted software in the respondents' own homes. Data collection was commissioned by the local NHS board and, as a community-based survey where sampling was not based on information about patients, clients or staff of the NHS, formal ethical approval was not required from the local NHS research ethics committee. Data collection was undertaken by a market research company who adhered to the UK Market Research Company Code of Conduct and was overseen by a steering group. 8237 interviews with residents aged 16 years and over living within the boundaries of NHS Greater Glasgow and Clyde were achieved, reflecting a 69.64% response rate. Data were weighted in a two stage weighting process to ensure representativeness, first for household size, then for age, sex and deprivation. Weighting was removed for imputation, then reapplied for the analysis.

### 2.1. Measures

#### 2.1.1. Wellbeing

The indicator chosen for positive mental health was the Warwick Edinburgh Mental Well Being Scale (WEMWBS) which was developed to assess a variety of components of wellbeing, including both hedonic and eudaimonic perspectives. The measure has been validated on a representative sample of adults in UK population (Tennant et al., 2007). Fourteen positive statements (e.g. "I've been feeling optimistic about the future"; "I've been feeling useful") are answered on a scale from 1 (none of the time) to 5 (all of the time) and summed to calculate an overall score. The higher the score, the higher the mental wellbeing. The Cronbach's alpha for these data was .96 indicating good internal consistency.

### 2.1.2. Cognitive social capital

We utilised an expanded version of the four-item scale previously employed by Heim et al. (2011) by calculating the mean of valid responses to seven questions concerning feeling of belonging to and integration with the local area. Respondents were asked to state how strongly they agreed or disagreed to seven statements on a 5 point scale (e.g. “I feel valued as a member of my community”, “By working together people in my neighbourhood can influence decisions that affect my neighbourhood” and “This is a neighbourhood where neighbours look out for each other”). Higher scores reflected greater cognitive social capital. The Cronbach's alpha for these data was .92, indicating good internal consistency.

### 2.1.3. Environmental incivilities

Environmental incivilities were recorded by summing responses to thirteen statements about the local area (e.g. “The amount of rubbish lying about in your area”; “The amount of noise and disturbance in your area”). Participants responded to a seven point scale; higher scores reflected a greater dissatisfaction with environmental incivilities in the neighbourhood. The Cronbach's alpha for these data was .94 indicating good internal consistency.

### 2.1.4. Social incivilities

Social incivilities were measured by summing responses to eight statements about the local area (e.g. “The amount of drug activity in your area”; “The number of assaults/muggings in your area”). Participants responded to a seven point scale; higher scores reflected a greater dissatisfaction with social incivilities in the neighbourhood. The Cronbach's alpha for these data was .94 indicating good internal consistency.

### 2.1.5. Perceived safety

Perceived safety was assessed by asking residents to say how strongly they agreed or disagreed on a five point scale to the following statement: “I feel safe walking alone around this local area even after dark”.

### 2.1.6. Social club membership

Social club membership was assessed as an indicator of structural social capital by including the dichotomous question, “Do you belong to any social clubs, associations, church groups or anything similar?”

### 2.1.7. Physical health

Self-reported Physical health was assessed by summing the total number of illnesses and or conditions from a list of 19 possible responses for which respondents were currently being treated, as previously used by Heim et al. (2011).

### 2.1.8. Socioeconomic status (SES)

SES is a household variable and is derived from the description of the occupation of the main wage earner (current or last job). SES is recorded as A, B, C1, C2, D, or E.

## 2.2. Analytic strategy

Examining the data revealed that 49.9% of the sample had complete data for every single item, with missing data on individual questionnaire items ranging from 2.1% to 32.4%. As a consequence, missing data were imputed using Multiple Imputation in SPSS 21. Data imputation using the Multiple Imputation method can be effective when up to 80% of data are missing (Lee and Huber, 2011) and, in fact, no single item had more than 33% missing data. Data were imputed on the items relating to Cognitive Social Capital, Environmental Incivilities, Social Incivilities, and Perceived Safety. These variables were included as predictors, along with Sex, SES, Age, Social Club Membership, and Years in Neighbourhood to try and account for length of exposure to neighbourhood conditions. Imputed values were constrained to be within the same range of possible values as the original data set, and five data sets were imputed. Imputing these values created a data set which permitted analyses on 8029 cases (97.0% of the sample).

Multiple linear regression was used to evaluate the relationships between levels of positive wellbeing as assessed by the WEMWBS and the variables of interest. At the first step in the regression we included six demographic variables in order to control for their effects: Sex, Age, SES, Years lived in neighbourhood, Physical Health Problems, and Social Club Membership (No, Yes). SES was treated as a multi-categorical variable and was therefore dummy coded before including it in the main analysis (Field, 2013). Dummy codes were: A vs. All others, B vs. All others, C1 vs. All others, C2 vs. All others, and D vs. All others. At the second step in the regression, we added mean-centred scores for Social Incivilities, Environmental Incivilities, Cognitive Social Capital, and Perceived Safety. Scores were mean-centred in order to avoid potential multi-collinearity issues when assessing interactions (Keith, 2006). This second step allowed us to evaluate whether the key variables of interest accounted for significant additional variance in the outcome variable after controlling for demographic factors. In effect, we were asking whether Social Incivilities, Environmental Incivilities, Cognitive Social Capital, and Perceived Safety help us to understand differences in Wellbeing after we have already accounted for variation due to Sex, Age etc. Finally, a third step was added to the regression which included four interaction terms, each of which represented an interaction between age (under 65 vs. 65+) and one of the four mean-centred variables of interest here: Social Incivilities, Environmental Incivilities, Cognitive Social Capital, and Perceived Safety.

**Table 1**

Descriptive statistics for continuous variables.

	2	3	4	5	6	7	Mean (SD) <sup>a</sup>
1. Years in neighbourhood (N=8111)	.13***	.33***	-.05***	-.07***	-.04**	-.08***	20.22 (17.94)
2. Physical health problems (N=8278)	-	-.07***	.12***	.15***	-.17***	-.41***	1.59 (1.19)
3. Cognitive social capital (N=8278)		-	-.41***	-.40***	.18***	.13***	3.69 (.76)
4. Environmental incivilities (N=8278)			-	.79***	-.20***	-.18***	2.56 (1.08)
5. Social Incivilities (N=8278)				-	-.23***	-.19***	3.00 (1.29)
6. Perceived safety (N=8278)					-	.17***	3.45 (1.11)
7. WEMWBS (N=8278)						-	50.37 (10.55)

Note: All correlations and means are pooled results.

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

<sup>a</sup> Standard deviations are average SDs across the five imputed data sets.

SPSS 21 produced pooled estimates for the unstandardised coefficients (with standard errors) and for significance testing of these.

### 3. Results

Descriptive statistics are shown in Tables 1 and 2. All continuous variables were significantly correlated with each other.

There were no problems with multi-collinearity (all VIFs < 4) in the regression model. Table 3 shows the pooled estimates for unstandardised betas and their associated standard errors. Unstandardised betas indicate what increase in wellbeing is associated with a one-unit increase in the relevant predictor, after controlling for the effects of all other variables in the model (Field, 2013). Additionally, Table 3 reports average standardised betas computed by summing the standardised coefficient estimates across results from the five imputed data sets and dividing by five. Standardised betas indicate the change in Wellbeing (expressed in standard deviations) which is associated with a one standard deviation change in the predictor (Field, 2013). Standardised betas allow at-a-glance comparisons of the relative effects of difference variables which are assessed using different scales. This ready comparison across variables is not applicable to unstandardised betas because the different measurement scales used (1–7, 1–5 etc.) mean that they are not directly comparable.

The first step in the multiple linear regression accounted for a significant portion of the variance in WEMWBS score:  $F_{10,8018} = 171.719$ ,  $p < .001$ ,  $R^2 = .175$ . This suggests that almost one fifth of the variation in WEMWBS scores can be accounted for by the variables entered at the first step in the regression. Significant individual predictors (all  $p < .001$ ) were Age, Years lived in neighbourhood, Social Club Membership, Physical Health Problems, and each of the SES dummy variables. Sex was not a significant individual predictor. These results were the same across all five imputed data sets.

When the key variables of interest were added at the second step in the analysis,  $\Delta R^2$  estimates ranged from .035 to .037 (average = .036) across the five imputed data sets. This indicates that these additional variables explained approximately 4% of the variation in WEMWBS scores, after accounting for the effects of the demographic variables. This was a significant portion of variance across all five data sets (all  $p < .001$ ),  $F_{4,8014} =$  from 89.98 to 93.14 (average = 91.61). All variables entered at the second step were significant individual predictors (all standardised betas were almost identical across the five data sets, with none varying by more than .014). Years lived in the neighbourhood was no longer a significant predictor. As shown in Table 3, Cognitive Social Capital ( $p < .001$ ) had the strongest relationship with WEMWBS

score, and as participants' Cognitive Social Capital increased so too did their positive wellbeing. Social Incivilities ( $p < .05$ ) and Environmental Incivilities ( $p < .01$ ) had weaker, and negative, associations with positive wellbeing indicating that as perceptions of incivilities in the local area increased, levels of wellbeing decreased. Finally, higher levels of Perceived Safety ( $p < .001$ ) were associated with higher levels of positive wellbeing.

The final step in the analysis involved entering the three interaction terms representing interactions between age (under 65 vs. 65+) and the three key variables in the analysis (Cognitive Social Capital, Social Incivilities, Environmental Incivilities). This step accounted for a significant (all  $p < .05$ ) portion of the variance,  $F_{3,8010} =$  from 3.21 to 3.84 (average = 3.53). The  $\Delta R^2$  estimates were .001 across four data sets and was .002 for the final data set. Only the interaction between age and Cognitive Social Capital was significant ( $p < .001$ ). To interrogate this interaction, two multiple linear regressions were conducted. Each regression was identical to that outlined above except that (i) there was no third step in the analysis and (ii) age was removed from the model. This regression was run separately for under 65s and for those aged 65 and over. These analyses revealed that the effect of Cognitive Social Capital upon WEMWBS score was significant for both groups, but that it was stronger for older adults (pooled  $B = 2.61$ ,  $SE = .297$ ; average  $\beta = .17$ , range = .167–.172,  $p < .001$ ) than for younger adults (pooled  $B = 1.536$ ,  $SE = .198$ ; average  $\beta = .10$ , range = .100–.107,  $p < .001$ ).

### 4. Discussion

In view of the paucity of research on place and positive mental health using a quantitative measure of wellbeing, the aim of the present investigation was to determine the extent to which perceived social and environmental factors impact on self-reported wellbeing in adults. Unlike the majority of previous research, an indicator of positive wellbeing was employed and this study assessed the relative impact of individual characteristics, perceived social and environmental incivilities, indicators of cognitive and structural social capital, and perceived safety. A particular aim was to investigate the extent to which Gale et al. (2011) findings among older people were generalisable to an adult population sample. In Gale et al.'s study, respondents, aged 69–78 years, who felt positive about their neighbourhood surroundings, and felt that they lived in a socially cohesive area, displayed greater positive mental health, independently of SES, income, health status and perceived social support.

In line with previous work (e.g. Lachman and Weaver, 1998; Weiting et al., 2009) we found support for the notion that SES is associated with mental wellbeing, in that wellbeing increased with higher socioeconomic status. Wellbeing decreased with age while sex was not a significant predictor. By highlighting how relatively stable demographic characteristics can shape and contribute to maintaining mental wellbeing (c.f. Propper et al., 2005), these findings are a further illustration of the potential influence of social structure on the wellbeing of individuals in society.

With regards to individual characteristics, our study considered the influence of length of residence in the neighbourhood and physical health problems on mental wellbeing. Similar to previous work (Salovey et al., 2000), as physical health problems increased among our study participants, their wellbeing decreased. This was the strongest predictor of wellbeing. Years lived in the neighbourhood was not a strong predictor, albeit there was a marginal increase in wellbeing the longer respondents had lived locally. This slight increase may be due to participants who like their neighbourhoods being less likely to move.

Overall, the associations between individual characteristics and wellbeing are broadly in line with previous work in terms of their

**Table 2**  
Descriptive statistics for categorical variables.

Variable	Categories	N (% within variable)
Age (N=8232)	< 65	6697 (80.9)
	65+	1549 (18.7)
Sex (N=8267)	Male	3905 (47.2)
	Female	4362 (52.7)
SES (N=8278)	A	214 (2.6)
	B	1055 (12.7)
	C1	2037 (24.6)
	C2	1793 (21.7)
	D	1557 (18.8)
	E	1623 (19.6)
Social club membership (N=8278)	Yes	1192 (14.4)
	No	7086 (85.6)

**Table 3**  
Results of multiple linear regression.

Predictors	Step 1		Step 2		Step 3	
	B (SE) <sup>a</sup>	Beta <sup>b</sup>	B (SE) <sup>a</sup>	Beta <sup>b</sup>	B (SE) <sup>a</sup>	Beta <sup>b</sup>
Sex <sup>c</sup>	.04 (.21)	.00	.13 (.23)	.01	.13 (.22)	.01
Age <sup>d</sup>	−2.28 (.26)	−.10***	−2.61 (.26)	−.12***	−2.74 (.26)	−.12***
SES <sup>e</sup>						
A vs. rest	5.95 (.81)	.08***	4.13 (.80)	.05***	4.10 (.80)	.05***
B vs. rest	5.65 (.40)	.16***	4.12 (.40)	.12***	4.12 (.40)	.12***
C1 vs. rest	5.06 (.31)	.20***	4.22 (.31)	.17***	4.21 (.31)	.17***
C2 vs. rest	4.91 (.31)	.20***	4.19 (.31)	.17***	4.18 (.31)	.17***
D vs. rest	3.00 (.32)	.12***	2.67 (.31)	.10***	2.67 (.31)	.10***
Years in neighbourhood	.02 (.01)	.04***	.00 (.01)	.01	.00 (.01)	.00
Social club membership <sup>f</sup>	1.99 (.30)	.07***	1.61 (.30)	.06***	1.58 (.30)	.06***
Physical health problems	−2.86 (.10)	−.32***	−2.69 (.10)	−.30***	−2.68 (.10)	−.30***
Cognitive social capital			1.61 (.17)	.12***	1.30 (.19)	.09***
Environmental incivilities			−.53 (.17)	−.05**	−.52 (.19)	−.05**
Social incivilities			−.37 (.14)	−.05*	−.52 (.16)	−.06**
Perceived safety			.59 (.10)	.07***	.59 (.10)	.07***
Age × cognitive social capital					1.25 (.37)	.04***
Age × environmental incivilities					.04 (.36)	.01
Age × social incivilities					.45 (.29)	.03
Age × perceived safety					−.06 (.20)	.00

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

<sup>a</sup> B(SE) are pooled estimates.

<sup>b</sup> Betas are estimates averaged from results of the five imputed data sets.

<sup>c</sup> Sex coded 'Men'=0, 'Women'=1.

<sup>d</sup> Age coded '< 65'=0, '65+'=1.

<sup>e</sup> All SES variables coded so that 'rest'=0, group of interest=1.

<sup>f</sup> Social club membership coded 'No'=0, 'Yes'=1.

directionality. With regards to the psychosocial variables included in our model, we found that the strongest predictor of mental wellbeing was cognitive social capital (i.e. a sense of trust; feeling of belonging to the local community; feeling valued). This finding echoes Gale et al. (2011) who found that perceived neighbourhood social cohesion was a predictor of mental wellbeing. In particular, our analysis indicates that the effect of cognitive social capital was moderated by age, with a stronger effect found among those aged 65 years and older when compared with younger participants. The finding that cognitive social capital appeared to be especially important for older adults could be related to their life-stage. Feelings of purpose and belonging within the neighbourhood may become more important for older adults who may be at particular risk of loneliness and isolation (Wenger et al., 1996).

Club membership was also a significant predictor in our study, although not as influential as cognitive social capital. This finding lends a degree of support to those of Hamano et al. (2010), and indicates that structural aspects of social capital may also facilitate wellbeing. In view of contradictory research findings with regards to the relative importance, or otherwise, of both structural and cognitive aspects of social capital as determinants of mental health and wellbeing (Nyqvist et al., 2008; Hamano et al., 2010), future research in this domain should routinely measure both. In this way, over time, it should be possible to derive a better understanding of how these different facets of social capital may facilitate positive mental health. We also hypothesised that mental wellbeing would be influenced by the perception of problems in the neighbourhood (both social and environmental) and how safe individuals felt. These relationships were significant, however the predictive value was rather weak for both perceived social and perceived environmental incivilities as well as for perceived safety. These findings seem to differ from those of Gale et al. (2011) who found a strong association between perceptions of the local neighbourhood and positive mental health among older adults.

Our study in a large representative sample of adults found little effect of perceptions of local environmental incivilities on mental wellbeing. These discrepancies between the studies may be due to methodological differences in measurement of neighbourhood perceptions and require further assessment. It is also possible that the association between neighbourhood perceptions and wellbeing is more pronounced in samples that are skewed towards older people.

In summary, our findings paint the following picture. While the 'hard' realities of physical health problems seem to have the strongest influence on wellbeing, this effect appears to be countered to a degree by structural aspects of social capital (i.e., club membership). However, after we had accounted for physical health problems, we found that positive social relationships between people (feelings of belonging and trust in others) was the strongest predictor of mental wellbeing among our study participants. Perhaps not surprisingly, this is reflected in perceptions of feeling safe in one's neighbourhood, which was also an important predictor of well being, although not as important as the elements of cognitive social capital. The benefits that might accrue from positive social relationships among residents might help to offset the more negative aspects of dwelling in more run-down neighbourhoods or provide the social glue that might contribute to people having the impetus to work together to make a difference in their local areas. Our findings illustrate the need for further investigation into the factors which foster positive social relationships between people and build psychological strength among individuals (Barry and Freidl, 2008), especially among those with the poorest health and living in more deprived neighbourhoods where the provision of meeting places and spaces (community halls, green spaces) is often lower and of inferior quality than those in more affluent areas (Hastings et al., 2012).

A number of limitations need to be borne in mind when considering the findings reported in this paper. First, the cross-sectional nature of the study design prevents us from inferring

causality. The fact that neighbourhood perceptions may influence wellbeing or indeed be influenced by one's mental state thereby highlights the need for future longitudinal designs. While the response rate of almost 70% was high for this kind of study, data collection by face-to-face interviews may have been subject to social desirability whereby responses may have been shaped by the tendency to answer questions in a manner that is perceived to be viewed favourably by others. The self-report nature of the measures could also lead to bias in regard to shared method variance. For example, it is possible that those with low self-reported health and who feel that their environment is poor may simply be reflecting a general underlying pessimism, i.e. they feel negative about all aspects of their lives (Stansfeld et al., 1993). This is often referred to as same source bias which is an important limitation for studies using subjectively measured constructs (Weden et al., 2008). However, as shown in a previous study subjectively assessed neighbourhood stressors and several physical health outcomes remain independently associated controlling for mental health outcomes, suggesting that whilst it is important to be mindful of such issues, associations between self-reported neighbourhood conditions and self-reported wellbeing may be quite robust. To address some of these issues future research should therefore use multi-method approaches to data collection, and supplement surveys with in-depth qualitative interviews that could afford a more fine-grained understanding of how wellbeing is shaped in the context of the local community. It is also possible that people in poor health end up in run down neighbourhoods areas; individuals are 'sorted' into neighbourhoods on the basis of their socio-economic status (e.g. education, income and social class) and cross sectional studies are unable to rule this out (Plantinga and Bernell, 2007). However, among the few longitudinal studies which have examined this issue, living in a poor neighbourhood has been shown to be associated with poorer health over time. For example, using multilevel growth curve models, a 40% probability of reporting poor health was predicted among residents of more deprived areas at an earlier age compared to those living in more affluent areas (Ellaway et al., 2012). Finally, although it has been argued that the straightforwardness of single item measures can be advantageous in some respects (Bowling, 2005), single-item reports may be subject to more random error than true score when compared to multi-item scales. Additionally, the assessment of complex concepts may be challenging to achieve in a single item given the restrictions placed on breadth of conceptual reach achievable within one short sentence. However, as noted, the present data were drawn from a larger study and the demands placed upon participants meant that multi-item scales could not be used for all measures. To the extent that such items may include additional measurement error, results reported here may represent underestimates of effect sizes for Perceived Safety and Social Club Membership. However, it may also be the case that assessing a narrower conceptualisation of these variables than would be possible if using a multi-item scale has inflated effects; this may be the case if these items are not representative of the broader conceptual reach of Perceived Safety and Social Club Membership. Future research should strive to replicate these findings with more complex scales.

In conclusion, utilising a regional general population sample, this study found that physical health, social structural factors (e.g. age and SES) and measures of cognitive social capital were stronger predictors of mental wellbeing than variables reflecting perceived incivilities or safety. The effect of cognitive social capital on wellbeing was stronger among respondents aged 56+ years. Overall, findings indicate that the promotion of positive mental health within communities may benefit from efforts to foster a greater sense of belonging among residents. This is not to say that environmental and social incivilities do not play a role, but perhaps people are more inured to their effects.

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