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# Composition, Concentration and Deprivation: Exploring their Association with Social Cohesion among Different Ethnic Groups in the UK

Laia Bécares, Mai Stafford, James Laurence and James Nazroo

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## Abstract

Although studies in the US have shown an association between the ethnic residential composition of an area and reports of decreased social cohesion among its residents, this association is not clear in the UK, and particularly for ethnic minority groups. The current study analyses a merged dataset from the 2005 and 2007 Citizenship Survey to assess the evidence for an association between social cohesion and ethnic residential concentration, composition and area deprivation across different ethnic groups in the UK. Results of the multilevel regression models show that, after adjusting for area deprivation, increased levels of social cohesion are found in areas of greater ethnic residential heterogeneity. Although different patterns emerge across ethnic groups and the measure of social cohesion used, findings consistently show that it is area deprivation, and not ethnic residential heterogeneity, which erodes social cohesion in the UK.

## Introduction

Immigration and ethnic diversity have been stated to, in the short run, reduce solidarity and social capital in the US (Putnam, 2007). Research in Europe has for the most part refuted this finding (see for example, Gesthuizen *et al.*, 2009; Tolsma *et al.*, 2009;

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Reeskens and Hooghe, 2009, but also see Lancee and Dronkers, 2008, for confirming results in the Netherlands); and in the UK, the association between ethnic diversity, social capital and social cohesion is not yet clear. UK studies have found that ethnic diversity is negatively associated only with neighbourhood attitudes (including enjoying living in the neighbourhood, feeling that neighbours can be trusted and that a wallet will be returned if lost), but does not impact negatively on socialisation with other residents (Letki, 2008) or on tolerance of diversity (Laurence, 2009). In addition, studies in the UK have found that area deprivation has a stronger detrimental effect than does ethnic diversity, proposing that it is deprivation, and not diversity, that undermines social cohesion (Letki, 2008; Laurence and Heath, 2008; Laurence, 2009). Despite these findings, conversations of integration and social cohesion are commonplace in the UK. Partly fuelled by the riots that occurred during the summer of 2001 in the northern cities of Oldham, Burnley and Bradford, debates and policy initiatives are underlined by a concern that increased ethnic and cultural diversity is an antagonist of unity and solidarity (Cheong *et al.*, 2007). This concern highlights the perceived dangerous association between increased migration and the likelihood of a decrease in British welfare (Goodhart, 2004), as well as the fear that multiculturalism has gone too far and is endangering social cohesion and national identity (Cheong *et al.*, 2007). Furthermore, the aforementioned 2001 riots in the UK, as well as other events that occurred in the US (for example, 11 September 2001 in New York) and across Europe (for example, the terrorist attacks of March 2004 in Madrid, the London bombings in July 2005 and the urban unrest in the Paris periphery during the autumn of 2005), have created the popular perception that ethnic minority people and newly arrived migrants are not integrated into their host

culture (Maxwell, 2009) and that riots and violence occur due to increasing and worrisome residential segregation experienced by ethnic minority people, which include

fully fledged ghettos—black holes into which no-one goes without fear and trepidation, and from which no-one ever escapes undamaged (Phillips, 2005).

This has led to inaccurate assumptions of the existence of US-style ghettos in the UK (Simpson, 2007; Peach, 1996) and to the perception of socially harmful associations between the residential concentration of ethnic minority people and negative social outcomes for society at large (Maxwell, 2006).

Despite its weight in the international literature and national policy debates, social cohesion is a broad concept that has not been clearly operationalised (Forrest and Kearns, 2001). Social cohesion is a multicomponent concept, formed of various dimensions which together contribute to society's collective project and well-being (Kearns and Forrest, 2000). These components, which are common values and a civic culture, social order and social control, social solidarity and reductions in wealth disparities, social networks and social capital, and territorial belonging and identity (Kearns and Forrest, 2000), fit in to create a cohesive society, one where

conflict between societal goals and groups, and disruptive behaviours, are largely absent or minimal (Kearns and Forrest, 2000, p. 996).

Given this multifaceted description of social cohesion, studies that have limited its measurement to a single index, or to one particular domain (for example, levels of generalised trust), have failed to explore its different features, providing an incomplete examination of the association between social cohesion and diversity.

In addition to measurement limitations, the majority of studies that have explored the construct of social cohesion have done so

analysing a study sample comprised mainly of White people and have not examined whether the association between social cohesion and the ethnic profile of an area varies across ethnic groups. This has led to generalisations of the association between ethnic diversity and social cohesion in the UK society at large, when only specific ethnic groups were represented in the results. This is also the case for studies that have examined the different contributions of neighbourhood ethnic and socioeconomic composition to social cohesion, which have not explored whether these associations vary by ethnic group (Letki, 2008; Laurence, 2009).

This paper aims to address the theoretical and methodological limitations of previous studies by: examining the association between neighbourhood ethnic profile and several domains of social cohesion, and exploring whether these associations differ by ethnic group; exploring whether the association between neighbourhood ethnic profile and social cohesion changes once the effects of area deprivation are taken into account; and, examining the relative contribution of different dimensions of neighbourhood profile, including ethnic composition, ethnic concentration and deprivation, to social cohesion among different ethnic groups in the UK.

## Methodology

### Data

This study uses data from two different sources: the adult sample, aged 16 and over, from the 2005 and 2007 Citizenship Survey (CS), merged to boost sample size; and the 2001 UK census, which was used to provide data on ethnic residential concentration for CS respondents.

The CS, previously carried out by the Home Office and known as the Home Office Citizenship Survey (HOCS), is a biennial survey that started in 2001 and provides an

evidence base for the work conducted by the Communities and Local Government Department. It consists of two separate components: a core representative sample of the general adult population of England and Wales, and an ethnic minority boost sample. The core sample was obtained from residential addresses selected from the Royal Mail's postcode address file (PAF). A two-stage sampling approach was used to select the addresses. At the first stage, a random sample of Census Area Statistics (CAS) wards was selected. At the second stage, addresses were sampled within the selected wards. The ethnic minority boost sample was chosen from wards selected for the core sample as well as from an additional boost sample of 150 wards, using screening and focused enumeration (Michaelson *et al.*, 2006). A total of 9691 respondents in 2005 were surveyed for the core sample (9336 in 2007) and 4390 for the ethnic boost sample (4759 in 2007). (For further information on CS methodology please see Michaelson *et al.*, 2006; and Agur *et al.*, 2009.)

Data from the 2001 UK census were linked to the CS using participants' postcodes. Middle Super Output Areas (MSOAs) were used to define area boundaries; these have a minimum population of 5000 and an average population of 7200, and were the lowest level of disaggregation that was permissible given identifiability constraints. Permission to link the 2001 census data on ethnicity to the CS was approved by the ethics committee of the data holder (the National Centre for Social Research) with the constraint that up to 5 per cent random error be added to each residential concentration variable. This additional random error reduced the precision of the estimates, but it did not bias them.

### Measures

Neighbourhood ethnic profile was measured in two different ways: as a typology of areas based on their ethnic minority composition;

and as the percentage of ethnic minority residents in an area, a measure based on their residential concentration.

The ethnic minority composition of study areas was assessed with a series of area typologies, created using k-means clustering analyses (MacQueen, 1967). The k-means algorithm partitions the data into a set of clusters, the number of which is previously specified by the user, and assigns each data point to a cluster whose centroid is nearest, making the centre of each cluster the average of all its points. Thus, areas with similar levels of residential concentration (based on the 2001 census) across all ethnic groups were placed into the same cluster. Given the small sample of Bangladeshi respondents, Bangladeshi and Pakistani densities were merged into one variable. So were Black Caribbean and Black African populations, whose residential concentration variables showed a high correlation (0.71). In order to determine the number of clusters appropriate for the data, we first started by conducting the analysis with four clusters. However, we found that five clusters yielded a better fit for the data and that the addition of a sixth group only had a marginal impact on the within-group variability (Steinley, 2006). Results yielded five different area types (White area type, Pakistani and Bangladeshi area type, Black area type, Mixed area type and Indian area type).

Ethnic minority residential concentration was calculated by dividing the number of residents from the respondent's ethnic group in an area, by the total population in that area. This was conducted separately for White British, Indian, Pakistani, Bangladeshi, Black Caribbean and Black African respondents. Residents of mixed ethnic background were excluded from the numerators.

Social cohesion was measured using items available in both the 2005 and 2007 CS, which asked respondents to what extent they agreed that: people in this neighbourhood pull together to improve the neighbour-

hood; people in this neighbourhood share the same values; this local area (within 15–20 minutes walking distance) is a place where people from different backgrounds get on well together; and, this local area (within 15–20 minutes walking distance) is a place where residents respect ethnic differences between people. A variable asking respondents how many people in their neighbourhood could be trusted (none, a few, some, or many) was also included. Responses were coded from 1: definitely disagree, to 4: definitely agree.

In order to address one of the methodological limitations mentioned in the introduction, whereby most previous studies have measured social cohesion solely using a single scale, we conducted analyses using both a social cohesion scale and separate components of social cohesion. The social cohesion scale was created using a summary score including the variables already described. Principal components factor analysis was used to explore the underlying structure of the items. The item measuring whether people in the neighbourhood share the same values did not correlate well with the other items (0.29) and was therefore omitted. One factor was sufficient to capture the remaining four items (Cronbach alpha = 0.64; 49 per cent of variance explained), as an aggregated summary social cohesion scale which ranged from 4 to 16 with higher values indicating greater cohesion.

It has been suggested that the measurement of social cohesion can be improved with measures of attitudes of acceptance or hostility towards ethnic minority groups (Hooge *et al.*, 2006), but this has not been widely used in previous studies. To explore the association between residential heterogeneity and different elements of social cohesion, we selected social cohesion items that were relevant to the current political discourse and that would advance the *status quo* of the extant research on social cohesion: people in this neighbourhood can be trusted, which

has been frequently used in studies of social capital, social cohesion and diversity; this local area is a place where residents respect ethnic differences between people; and, this local area is a place where people from different backgrounds get on well together. Responses to these variables were categorised into 0: tend to disagree, definitely disagree, and 1: agree, definitely agree.

Ethnicity was measured as a self-reported variable and was categorised using the same definitions as the 2001 census into White British, Indian, Pakistani, Bangladeshi, Black Caribbean and Black African. Other ethnic groups, including Chinese, White Irish and White Other, covered too few respondents to be considered in the analyses presented here.

Other explanatory variables included respondent's age, sex, individual socioeconomic position, nativity (UK or abroad) and number of years living in the neighbourhood. Socioeconomic position based on respondent's occupation was classified according to the NS-SEC into four groups (higher and lower management; intermediate, small employers, lower supervisory and technical; semi-routine and routine occupations; and never worked or long-term unemployed).

To measure neighbourhood deprivation, analyses included the 2004 Index of Multiple Deprivation summary score at the MSOA level.

### Statistical Analysis

The merged dataset of the 2005 and 2007 CS produced a total of 24 440 respondents from Indian, Pakistani, Bangladeshi, Black Caribbean, Black African and White British ethnic groups. Descriptive statistics, presented in Table 1, were weighted to account for non-response of eligible participants and the unequal probability of being sampled.

To account for the hierarchical nature of the CS, where individuals (level 1) are nested within neighbourhoods (level 2), data were analysed using multilevel modelling, which corrected

for non-independence of observations due to geographical clustering. Random effects multilevel linear regression models were conducted to explore the association between neighbourhood ethnic profile and social cohesion, measured as a scale. The association between residential composition, concentration, deprivation and the separate, dichotomised measures of social cohesion (people in the area can be trusted, respect ethnic differences and get on well together), was examined using random effects multilevel logistic regressions.

To explore the association between ethnic residential composition, concentration, area deprivation and social cohesion, and the relative contribution of each independent variable, models were built in two steps: model 1 included a measure of neighbourhood ethnic profile (composition or concentration, entered in different models) and all individual-level covariates. Model 2 included an additional control for area deprivation, analysed as a continuous variable.

These models were stratified by ethnic group. All analyses were conducted using Stata 11 (StataCorp, 2009).

### Results

White British people tended to be older and to occupy higher socioeconomic positions compared with ethnic minority people (see Table 1). Pakistani and Bangladeshi people tended to live in more deprived areas and occupied the lowest socioeconomic positions. The majority of ethnic minority participants were born abroad and tended to report fewer years of living in the neighbourhood than White British people. It is worth noting, however, that over 40 per cent of all ethnic groups (20 per cent of Black African people), reported residing in their current neighbourhood for 10 years or more. Aside from White British people, Indian and Pakistani people were the most concentrated in areas of own-group ethnic residential concentration, whereas

**Table 1.** Descriptive characteristics of the merged 2005 and 2007 CS sample (percentages)

	<i>Indian</i>	<i>Pakistani</i>	<i>Bangladeshi</i>	<i>Black Caribbean</i>	<i>Black African</i>	<i>White British</i>
Sample size						
Weighted <i>n</i>	560	315	123	240	283	24 456
Unweighted <i>n</i>	2 687	1 503	536	1 644	1 536	16 534
<i>Sex</i>						
Female	44	43	46	54	51	52
Age M(SD)	40(35)	35(31)	33(27)	44(46)	36(30)	47(16)
<i>Registrar's class</i>						
Higher and lower management	33	20	13	29	27	34
Intermediate, small employers, lower supervisory and technical	24	23	20	28	16	31
Semi-routine and routine	26	25	34	31	29	28
Never worked, long-term unemployed	17	32	33	12	28	7
<i>Nativity</i>						
Foreign born	69	61	75	52	85	3
<i>Years lived in neighbourhood</i>						
Less than 1	8	7	5	3	15	5
1–5	30	28	28	27	49	22
5–10	13	18	23	18	16	15
10 or more	49	47	44	52	20	58
<i>Area deprivation</i>						
1 Least deprived	9	5	2	3	3	18
2	8	4	6	4	5	16
3	13	7	6	8	7	19
4	26	17	9	22	23	22
5	23	25	12	27	26	14
6 Most deprived	22	42	65	36	36	11
<i>Own-group ethnic density</i>						
M(SD)	19(18)	15(16)	16(19)	8(6)	7(7)	91(12)
Range	0–74	0–75	0–62	0–24	0–40	7–100
<i>Composition of area typologies (row percentages)</i>						
White area types	3	1	0	1	2	93
Pakistani and Bangladeshi area types	11	36	33	8	6	6
Black area types	10	5	5	37	33	10
Mixed area types	23	17	3	16	15	26
Indian area types	62	17	2	8	6	5

Black Caribbean participants were the least concentrated (Table 1).

### Social Cohesion Scale

Analyses considering the overall ethnic composition of the neighbourhood using area

typologies, presented in Table 2, show that, in model 1, prior to adjusting for area deprivation, social cohesion was lower for Indian, Black Caribbean and White British people living in areas of ethnic minority composition, compared with living in White British



**Table 2.** Multilevel linear regression results of social cohesion scale, by area composition and own-group ethnic concentration (10 per cent increase) in the 2005 and 2007 CS

	Indian		Pakistani		Bangladeshi		Black Caribbean		Black African		White British	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
	Coefficient (S.E.)	Coefficient (S.E.)	Coefficient (S.E.)	Coefficient (S.E.)	Coefficient (S.E.)	Coefficient (S.E.)	Coefficient (S.E.)	Coefficient (S.E.)	Coefficient (S.E.)	Coefficient (S.E.)	Coefficient (S.E.)	Coefficient (S.E.)
<i>Composition</i>												
<i>Area types</i>												
White (reference)	1	1	1	1	1	1	1	1	1	1	1	1
Pakistani and	-1.34† (0.32)	-0.80** (0.33)	-0.29 (0.26)	0.10 (0.28)	0.05 (0.35)	0.83 (0.44)	-0.73* (0.37)	-0.64 (0.41)	-0.32 (0.43)	-1.50† (0.37)	-0.54 (0.35)	-0.54 (0.35)
Bangladeshi	-0.58** (0.23)	-0.17 (0.24)	-0.53 (0.33)	-0.25 (0.34)	-0.90* (0.40)	-0.24 (0.45)	-0.43* (0.21)	-0.26 (0.21)	-0.02 (0.23)	-0.99† (0.18)	-0.27 (0.17)	-0.27 (0.17)
Black	-0.40** (0.15)	-0.21 (0.15)	-0.23 (0.21)	-0.04 (0.21)	-0.11 (0.38)	0.35 (0.41)	-0.51** (0.19)	-0.05 (0.21)	0.06 (0.21)	-0.50† (0.09)	-0.17* (0.08)	-0.17* (0.08)
Mixed	-0.40** (0.16)	-0.08 (0.17)	-0.03 (0.24)	0.19 (0.25)	0.02 (0.47)	0.56 (0.50)	-0.84† (0.27)	0.16 (0.31)	0.31 (0.32)	-0.64** (0.27)	-0.13 (0.24)	-0.13 (0.24)
Deprivation	—	-0.21† (0.04)	—	-0.21† (0.06)	—	-0.34† (0.11)	-0.08 (0.06)	—	-0.16** (0.06)	—	-0.35† (0.02)	-0.35† (0.02)
<i>Concentration</i>												
Own-group ethnic concentration	0.02 (0.04)	0.07* (0.04)	-0.02 (0.05)	0.05 (0.05)	0.09 (0.05)	0.17† (0.06)	0.06 (0.11)	-0.03 (0.09)	0.11 (0.10)	0.16† (0.02)	0.06† (0.02)	0.06† (0.02)
Deprivation	—	-0.25† (0.04)	—	-0.23† (0.06)	—	-0.34† (0.10)	-0.14** (0.05)	—	-0.20† (0.06)	—	-0.35† (0.01)	-0.35† (0.01)

Notes: \*  $p < 0.05$ , \*\*  $p < 0.01$ , †  $p < 0.001$ . Model 1 adjusts for: sex, age, individual socioeconomic position, number of years living in neighbourhood and nativity (for ethnic minority respondents). Model 2 adjusts for: sex, age, individual socioeconomic position, number of years living in neighbourhood, nativity (for ethnic minority respondents) and area deprivation.



area types. On adjustment for area deprivation in model 2, statistical significance and effect sizes of the area typologies coefficients decreased. In some cases, adjusting for the effect of area deprivation caused the direction of the effect to change, so that living in areas characterised by their ethnic minority composition was associated with higher social cohesion, as compared with living in White area types (results not statistically significant). Examinations of the association between area deprivation and the social cohesion scale found an increase in area deprivation to be strongly associated with lower social cohesion for Indian, Pakistani, Bangladeshi, Black African and White British people.

The association between own-group ethnic concentration and social cohesion varied by ethnic group in model 1 and was only statistically significant for White British people, who reported higher social cohesion as own-group ethnic concentration increased (Coefficient 0.16; S.E. 0.02 for a 10 per cent increase). After adjusting for area deprivation in model 2, a consistent promoting effect of own-group ethnic concentration on social cohesion emerged for all ethnic minority groups as well as for the White British group, although results were only statistically significant for Indian, Bangladeshi and White British people (see Table 2). For White British people, adjusting for area deprivation translated into a reduction in the effect size of own-group ethnic concentration. A strong association was also found in these models between an increase in area deprivation and a decrease in social cohesion, with effect sizes more than double those of own-group ethnic concentration.

### People in the Area Can Be Trusted

An overall trend of decreased trust was found for people living in areas of ethnic minority composition, as compared with living in White area types. This association, statistically significant for Indian, Black Caribbean and White British people, diminished in strength

and statistical significance once area deprivation was adjusted for in model 2, although it remained in the same detrimental direction. Decreased trust was consistently reported by respondents of all ethnic groups as area deprivation increased (results not statistically significant for Pakistani people, see Table 3).

When own-group ethnic residential concentration was considered, results of model 1 showed that as own-group ethnic concentration increased, Black Caribbean and Black African respondents reported a decrease in trust, whereas the opposite was found for White British people. On adjustment of area deprivation in model 2, the strength of the detrimental association between Black Caribbean and Black African residential concentration and lower trust was found to decrease (losing statistical significance for Black African respondents) and the effect size of White British own-group ethnic concentration diminished. Results of model 2 also show that Pakistani and Bangladeshi people reported increased trust as their own-group ethnic residential concentration increased (O.R.: 1.10, 95 per cent C.I.: 1.00–1.22 for a 10 per cent increase in Pakistani concentration and O.R.: 1.18, 95 per cent C.I.: 1.09–1.37 for a 10 per cent increase in Bangladeshi concentration).

### People in the Area Respect Ethnic Differences

Analyses exploring the association between residential composition and reports that people in the area respect ethnic differences showed increased respect for ethnic differences when living in areas characterised by their ethnic minority composition, as compared with living in a White area type (Table 4). This association was strengthened once area deprivation was adjusted for in model 2, which was particularly significant for Indian and White British people. For the latter, the direction of the effect changed after accounting for the detrimental effects of area disadvantage.

**Table 3.** Multilevel logistic regression results of the association between the belief that people in the area can be trusted and by area composition and co-ethnic concentration (10 per cent increase) in the 2005 and 2007 CS

	Indian		Pakistani		Bangladeshi		Black Caribbean		Black African		White British	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
<i>Composition</i>												
<i>Area types</i>												
White (reference)	1	1	1	1	1	1	1	1	1	1	1	1
Pakistani and Bangladeshi	0.38† (0.2–0.7)	0.60 (0.3–1.1)	0.96 (0.6–1.6)	1.05 (0.6–1.0)	0.83 (0.4–1.8)	1.43 (0.6–3.6)	0.49 (0.2–1.1)	0.66 (0.3–1.5)	0.36† (0.2–0.7)	0.47* (0.2–0.9)	0.32† (0.1–0.7)	0.72 (0.3–1.5)
Black	0.38† (0.2–0.6)	0.53** (0.3–0.8)	0.71 (0.4–1.3)	0.76 (0.4–1.4)	0.35** (0.1–0.8)	0.56 (0.2–1.4)	0.33† (0.2–0.5)	0.41† (0.3–0.7)	0.62** (0.4–0.9)	0.76 (0.5–1.1)	0.31† (0.2–0.5)	0.58† (0.4–0.8)
Mixed	0.54† (0.4–0.7)	0.63** (0.5–0.9)	0.83 (0.5–1.2)	0.86 (0.6–1.3)	0.55 (0.2–1.2)	0.73 (0.3–1.7)	0.39† (0.2–0.6)	0.44† (0.3–0.7)	0.85 (0.6–1.2)	0.91 (0.6–1.3)	0.58† (0.5–0.7)	0.76** (0.6–0.9)
Indian	0.58† (0.4–0.8)	0.75 (0.5–1.1)	0.75 (0.5–1.2)	0.79 (0.5–1.6)	0.46 (0.2–1.2)	0.66 (0.2–1.9)	0.48** (0.3–0.8)	0.57 (0.3–1.0)	1.31 (0.7–2.3)	1.48 (0.8–2.7)	0.53* (0.3–1.0)	0.82 (0.4–1.5)
Deprivation	—	0.83† (0.8–0.9)	—	0.95 (0.8–1.1)	—	0.78* (0.6–0.9)	—	0.85** (0.8–0.9)	—	0.87** (0.7–0.9)	—	0.72† (0.7–0.7)
<i>Concentration</i>												
Own-group ethnic concentration	0.97 (0.9–1.0)	1.01 (0.9–1.1)	1.07 (0.9–1.2)	1.10* (1.0–1.2)	1.08 (0.9–1.2)	1.18* (1.1–1.4)	0.70† (0.6–0.9)	0.80* (0.6–0.9)	0.85* (0.7–0.9)	0.96 (0.8–1.1)	1.21† (1.2–1.3)	1.12† (1.1–1.2)
Deprivation	—	0.80† (0.7–0.9)	—	0.91 (0.8–1.0)	—	0.75** (0.6–0.9)	—	0.80† (0.7–0.9)	—	0.83† (0.7–0.9)	—	0.72† (0.7–0.8)

Notes: \*  $p < 0.05$ , \*\*  $p < 0.001$ . Model 1 adjusts for: sex, age, individual socioeconomic position, number of years living in neighbourhood and nativity (for ethnic minority respondents). Model 2 adjusts for: sex, age, individual socioeconomic position, number of years living in neighbourhood, nativity (for ethnic minority respondents) and area deprivation.

**Table 4.** Multilevel logistic regression results of the association between the belief that people in the area respect ethnic differences by area composition and co-ethnic concentration (10 per cent increase) in the 2005 and 2007 CS

Composition Area types (reference)	Indian			Pakistani			Bangladeshi			Black Caribbean			Black African			White British		
	Model 1	Model 2		Model 1	Model 2		Model 1	Model 2		Model 1	Model 2		Model 1	Model 2		Model 1	Model 2	
	OR (95 C.I.)	OR (95 C.I.)	per cent C.I.)	OR (95 C.I.)	OR (95 C.I.)	per cent C.I.)	OR (95 C.I.)	OR (95 C.I.)	per cent C.I.)	OR (95 C.I.)	OR (95 C.I.)	per cent C.I.)	OR (95 C.I.)	OR (95 C.I.)	per cent C.I.)	OR (95 C.I.)	OR (95 C.I.)	per cent C.I.)
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0.67 (0.3–1.4)	1.08 (0.5–2.3)	1.03 (0.6–1.9)	1.37 (0.7–2.6)	3.50† (1.5–8.2)	10.48† (3.2–34.3) <sup>a</sup>	0.61 (0.3–1.4)	0.60 (0.2–1.4)	0.91 (0.4–2.2)	1.12 (0.4–2.9)	0.60 (0.2–1.5)	1.46 (0.6–3.4)							
0.74 (0.4–1.3)	1.05 (0.6–1.9)	1.37 (0.6–3.0)	1.64 (0.7–3.7)	1.83 (0.7–4.6)	4.74** (1.5–15.3) <sup>a</sup>	1.43 (0.8–2.4)	1.42 (0.9–2.3)	1.56 (0.9–2.6)	1.83* (1.0–3.2)	0.60* (0.4–0.9)	1.17 (0.8–1.7)							
0.96 (0.7–1.4)	1.13 (0.8–1.7)	1.21 (0.7–1.9)	1.38 (0.8–2.3)	2.83* (1.1–7.1)	5.72† (1.9–17.4) <sup>a</sup>	1.07 (0.7–1.7)	1.06 (0.7–1.7)	1.12 (0.7–1.8)	1.20 (0.7–2.0)	0.78* (0.6–0.9)	1.05 (0.9–1.3)							
1.29 (0.9–1.9)	1.71** (1.1–2.6)	1.91* (1.1–3.5)	2.23** (1.2–4.1)	6.87** (1.5–30.5) <sup>a</sup>	15.48† (2.9–82.1) <sup>a</sup>	1.26 (0.6–2.4)	1.25 (0.6–2.5)	1.44 (0.7–3.1)	1.59 (0.7–3.2)	0.83 (0.4–1.6)	1.27 (0.7–2.4)							
—	0.83† (0.7–0.9)	—	0.83* (0.7–0.9)	—	0.60** (0.4–0.9)	—	1.01 (0.9–1.1)	—	0.89 (0.8–1.0)	—	0.70† (0.7–0.7)							
1.16†	1.20†	0.99	1.05	1.20*	1.27*	1.36*	1.39*	1.27	1.37*	1.03	0.95**							
(1.1–1.3)	(1.1–1.3)	(0.9–1.1)	(0.9–1.2)	(1.0–1.4)	(1.0–1.5)	(1.0–1.8)	(1.0–1.8)	(0.9–1.6)	(1.0–1.8)	(0.9–1.1)	(0.9–0.9)							
—	0.82† (0.7–0.9)	—	0.84* (0.7–0.9)	—	0.81 (0.6–1.1)	—	0.98 (0.8–1.1)	—	0.89 (0.8–1.0)	—	0.70† (0.7–0.7)							

Notes: †estimates unreliable due to small numbers. \* p < 0.05, \*\* p < 0.01, †p < 0.001. Model 1 adjusts for: sex, age, individual socioeconomic position, number of years living in neighbourhood and nativity (for ethnic minority respondents). Model 2 adjusts for: sex, age, individual socioeconomic position, number of years living in neighbourhood, nativity (for ethnic minority respondents) and area deprivation.

A 10 per cent increase in own-group ethnic residential concentration was found to be associated with higher odds of reporting that people in the area respect ethnic differences across all ethnic minority groups (results not statistically significant for Pakistani people, see Table 4). This association strengthened as area deprivation was adjusted for in model 2. In contrast, White British people were less likely to report respect for ethnic differences as their own-group ethnic residential concentration increased by 10 per cent (O.R.: 0.95, 95 per cent C.I.: 0.90–0.99).

An increase in area deprivation was found to be strongly associated with decreased odds of reporting respect for ethnic differences in both residential composition and concentration models.

### **People in the Area Get On Well Together**

Reports that people in the area get on well together were not found to be associated with residential composition. However, a statistically significant association was found with area deprivation amongst Indian, Pakistani, Bangladeshi and White British people (see Table 5), whereby as area deprivation increased, odds of reporting that people get on well together decreased.

When own-group ethnic concentration was considered, Indian and Black African people were found to be more likely to report that people in their area get on well together as their own-group ethnic residential concentration increased by 10 per cent. As was the case with the residential composition model, decreased odds of reporting that people get on well together were found as area deprivation increased (results statistically significant for Indian, Pakistani and White British people).

## **Discussion**

This study set out to examine the negative associations between neighbourhood ethnic profile and social cohesion that are currently

found in both the academic and political discourses, and to ascertain whether it is ethnic residential composition, concentration or deprivation that erodes social cohesion for ethnic minority and White British people in the UK. It specifically aimed to: examine the association between neighbourhood ethnic profile and several domains of social cohesion, and explore whether these associations differ by ethnic group; explore whether the association between neighbourhood ethnic profile and social cohesion changes once the effects of area deprivation are taken into account; and, examine the relative contribution of different dimensions of neighbourhood profile, including ethnic composition, ethnic concentration and deprivation, to social cohesion among different ethnic groups in the UK.

Explorations of our first study aim, which examined the association between neighbourhood ethnic profile and several domains of social cohesion across separate ethnic groups, produced different patterns depending on the measure of social cohesion and characteristic of neighbourhood ethnic profile examined. For example, whereas individuals living in non-White area types, compared with those living in mainly White areas, tended to report lower social cohesion (measured as a scale) and decreased trust in their neighbours, they were also generally more likely to report that people in the area respect ethnic differences and get on well together. When we considered ethnic residential concentration, we found more consistent results, whereby as own-group ethnic concentration increased, all ethnic groups tended to report higher social cohesion, more trust (except for Black Caribbean people) and more respect for ethnic differences, although for White British people respect for ethnic differences decreased as own-group ethnic concentration increased. It is important to consider that, given the range of residential ethnic minority concentration in the UK, an increase in

**Table 5.** Multilevel logistic regression results of the association between the belief that people in the area get on well together by area composition and co-ethnic concentration (10 per cent increase) in the 2005 and 2007 CS

Composition Area types	Indian		Pakistani		Bangladeshi		Black Caribbean		Black African		White British	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
	OR (95 C.I.)	OR (95 C.I.)	OR (95 C.I.)	OR (95 C.I.)	OR (95 C.I.)	OR (95 C.I.)	OR (95 C.I.)	OR (95 C.I.)	OR (95 C.I.)	OR (95 C.I.)	OR (95 C.I.)	OR (95 C.I.)
1	1	1	1	1	1	1	1	1	1	1	1	1
Pakistani and Bangladeshi	0.56 (0.3–1.2)	0.89 (0.4–1.9)	0.78 (0.4–1.3)	1.08 (0.6–1.9)	1.39 (0.6–3.1)	2.76 (0.9–7.8)	1.00 (0.4–2.5)	0.94 (0.4–2.5)	0.99 (0.4–2.4)	1.14 (0.4–2.9)	0.32† (0.1–0.7)	0.65 (0.3–1.4)
Black	0.92 (0.5–1.6)	1.30 (0.7–2.3)	0.97 (0.5–2.0)	1.20 (0.6–2.5)	0.64 (0.3–1.5)	1.16 (0.4–3.3)	0.96 (0.6–1.5)	0.92 (0.5–1.6)	1.19 (0.8–1.9)	1.32 (0.8–2.2)	0.80 (0.5–1.2)	1.32 (0.9–1.9)
Mixed	1.14 (0.8–1.6)	1.34 (0.9–1.9)	1.02 (0.6–1.6)	1.19 (0.7–1.9)	1.19 (0.5–2.9)	1.76 (0.7–4.6)	0.95 (0.6–1.5)	0.92 (0.6–1.5)	1.10 (0.7–1.7)	1.16 (0.7–1.8)	0.75† (0.6–0.9)	0.95 (0.8–1.1)
Indian	1.08 (0.7–1.6)	1.41 (0.9–2.1)	1.06 (0.6–1.8)	1.26 (0.7–2.2)	9.91* (1.2–82.1) <sup>a</sup>	15.55** (1.8–<100) <sup>a</sup>	0.61 (0.3–1.1)	0.59 (0.3–1.1)	1.81 (0.9–3.8)	1.92 (0.9–4.0)	0.69 (0.4–1.3)	0.97 (0.5–1.7)
Deprivation	—	0.83† (0.7–0.9)	—	0.82** (0.7–0.9)	—	0.72 (0.5–1.0)	—	1.03 (0.9–1.2)	—	0.93 (0.8–1.1)	—	0.77† (0.7–0.8)
Concentration												
Own-group ethnic concentration	1.09* (1.0–1.2)	1.12** (1.0–1.2)	0.93 (0.8–1.0)	0.98 (0.9–1.1)	0.99 (0.9–1.1)	1.05 (0.9–1.2)	0.98 (0.8–1.3)	0.96 (0.7–1.3)	1.25 (0.9–1.6)	1.36* (1.0–1.7)	1.05* (1.0–1.1)	0.99 (0.9–1.0)
Deprivation	—	0.83† (0.7–0.9)	—	0.84** (0.7–0.9)	—	0.81 (0.6–1.7)	—	1.03 (0.9–1.2)	—	0.90 (0.8–1.0)	—	0.77† (0.7–0.8)

Notes: \* estimates unreliable due to small numbers.  $p < 0.05$ , \*\*  $p < 0.01$ , †  $p < 0.001$ . Model 1 adjusts for: sex, age, individual socioeconomic position, number of years living in neighbourhood and nativity (for ethnic minority respondents). Model 2 adjusts for: sex, age, individual socioeconomic position, number of years living in neighbourhood, nativity (for ethnic minority respondents) and area deprivation.

ethnic minority residential concentration represents higher residential heterogeneity, or more diversity. It is only for White British people that an increase in own-group ethnic concentration means increased residential homogeneity. In other words, we find that, after adjusting for area deprivation, ethnic residential heterogeneity is associated with an increase, not erosion, of social cohesion for ethnic minority people.

Our results show that, for White British people, an increase in the percentage of White British residents in an area translated into higher levels of social cohesion. However, after taking into account the effect of area deprivation, a significant reduction in the effect size of own-group ethnic concentration on social cohesion was observed. This is possibly due to the fact that areas characterised by a greater percentage of White British residents tend to be less deprived and so it is this decreased level of deprivation that is driving the positive effect of White British people's own-group ethnic concentration on social cohesion. Interestingly, we find the opposite for ethnic minority people, whereby adjusting for area deprivation strengthens the association between own-group ethnic concentration and increased social cohesion. These findings are consistent with existent research showing that once the detrimental effects of area deprivation are adjusted for, an increase in the concentration of ethnic minority residents in an area is associated with other positive outcomes, including decreased experiences of racism and improved mental and physical health (Bécares *et al.*, 2009; Stafford *et al.*, 2009). We return to the importance of area deprivation shortly.

In addition to highlighting ethnic variations in the association between neighbourhood ethnic profile and social cohesion, these results support our criticism against measuring social cohesion using a summary score or a single outcome, such as social trust. As our findings suggest, this method does not properly

capture the dynamics of the relationship between residential heterogeneity and the different aspects of social cohesion, including the appreciation of diversity and the development of positive relationships between people from different backgrounds. Dissecting the concept to examine its constituent parts allows us to understand how neighbourhood ethnic profile is related to the multiple facets of social cohesion and how these relate to different aspects of residential heterogeneity. Results of our first study aim highlight the importance of carefully considering the methodological examination of social cohesion before issuing generalising statements regarding causal mechanisms based on a single outcome or a single ethnic group.

Our second aim explored whether the association between neighbourhood ethnic profile and social cohesion changes once the effects of area deprivation are taken into account. Findings show that, on adjustment for area deprivation, the statistical significance and strength of the negative coefficient of neighbourhood ethnic profile is reduced and, in some cases, changes direction into a promoting effect. Moreover, results show a consistently strong association between a decrease in area deprivation and an increase in social cohesion for all ethnic groups, both for the social cohesion scale, as well as for its individual components, suggesting that any erosion of social cohesion is the result of deprivation, not of neighbourhood ethnic profile.

This leads onto our last aim, which sought to determine the independent contribution of each neighbourhood characteristic, including composition, concentration and deprivation, to social cohesion. As the previous discussion points out, our findings show that it is not neighbourhood ethnic profile, but neighbourhood deprivation, which erodes social cohesion for ethnic minority and White British people in the UK. The fact that it is deprivation, and not ethnic heterogeneity,



which causes social ills in the UK has been reported before, although previous studies have not examined whether this varied by ethnic group (Letki, 2008; Laurence, 2009; Taylor *et al.*, 2010). In fact, this was also found, although hardly highlighted in the discussion of results, by the same studies that identified ethnic diversity as the key factor eroding social cohesion (Putnam, 2007). It is unclear why, despite finding stronger associations between social cohesion and indicators of area-level deprivation, as compared with those found for ethnic diversity, it is the latter that have been emphasised. Unfortunately, Putnam's (2007) analyses do not model how the association between ethnic diversity and social cohesion varies upon adjustment for area-level socioeconomic characteristics, which could have produced a greater understanding of the contributions of neighbourhood deprivation and diversity to social cohesion and perhaps led to conclusions similar to ours. Regardless, by exploring how the association between neighbourhood ethnic profile and social cohesion changes once area deprivation is adjusted for, and by assessing the contribution of area-level socioeconomic characteristics to social cohesion among different ethnic groups, the present study argues that increased residential heterogeneity does not erode social cohesion in the UK.

Although the present study has aimed to address some of the limitations of the previous literature, several caveats remain. We have argued for studies examining social cohesion to explore its different domains; however, we have only analysed three of its separate components (trust, respect for ethnic differences, getting on well together). Other domains of social cohesion, including sense of belongingness and willingness to participate and help, remain to be examined (Chan *et al.*, 2006; Kawachi and Berkman, 2000). Unfortunately, the current measures of social cohesion available in the Citizenship Survey, as those found in the great majority of survey data, fail to

capture fully the multifaceted definition of social cohesion and all its components. Nonetheless, the Citizenship Survey is the only UK survey with comprehensive measures of social cohesion and a large sample of ethnic minority respondents and, to the best of our knowledge, is the most complete and appropriate survey to undertake the analyses presented here. The self-report measures of social cohesion that are used in this study suffer from the same cognitive and social limitations as other self-report variables (Stone *et al.*, 2000). Notwithstanding, measures such as these have been used in a number of other examinations of social cohesion (Letki, 2008; Laurence and Heath, 2008; Laurence, 2009).

Interpretation of this study's findings, as well as those of other studies examining the association between diversity and social cohesion, should take into consideration the possibility that results might be due to social selection into areas characterised by their ethnic heterogeneity. It is possible that respondents who are more inclined to live in areas characterised by higher concentrations of ethnic minority residents are more likely to perceive social interactions in their area as cohesive and report that residents get along well together. The cross-sectional nature of the data means that we were not able to assess this possibility, although we included in the analytical models a control for length of residence in neighbourhood. Nonetheless, the vast majority of studies examining the determinants of social cohesion have conducted similar cross-sectional analyses and have drawn strong causal conclusions. Our analyses show that, even in a cross-sectional scenario, the statement that residential heterogeneity erodes social cohesion does not hold, but that instead it is deprivation which has a stronger, detrimental effect.

Despite its limitations, this study presents several important contributions to the social cohesion literature—namely, that the association between neighbourhood ethnic



profile and social cohesion is not the same across ethnic groups; the demonstration of the importance of incorporating individual components of social cohesion; and, most importantly, the affirmation that it is deprivation, and not ethnic residential composition or concentration, which erodes social cohesion for all ethnic groups in the UK.

In conclusion, this study found that, whereas the relationship between social cohesion and neighbourhood ethnic profile is complex and dependent on the ethnic group examined, the measure of residential heterogeneity analysed and the definition of social cohesion used, the association between social cohesion and area deprivation is consistently strong, resulting in a decrease in all components of social cohesion as area deprivation increases.

Results of this, and other studies that have found parallel findings using related outcomes (Letki, 2008; Laurence, 2009; Taylor *et al.*, 2010), advocate for a shift in both political and academic efforts from problematising diversity, to targeting area deprivation. Ethnic neighbourhood profile, perhaps perceived by some as eroding social capital, can become the source of a great psychosocial benefit for ethnic minority groups (Goulbourne and Solomos, 2003). For example, Caribbean youth have been stated to use intraethnic connections built through the resources of family relationships, kin membership and civic participation to express their sense of self and ethnic identity (Reynolds, 2006). At the other end of the age spectrum, the ethnic composition of an area provides important resources for the well-being of older ethnic minority people, operating in terms of access to appropriate services and facilities, having a place and a role in the community, and providing a clear sense of 'home', having been involved in the building of the local community (Grewal *et al.* 2004).

On the other hand, high levels of area deprivation have been stated to generate feelings of powerlessness, threat and alienation among

neighbourhood residents, leading, in turn, to low levels of neighbourhood attachment and participation (Oliver and Mandelberg, 2000). Prior to engaging in building social cohesion, ethnic minority people living in deprived neighbourhoods are often more concerned about access to jobs, housing and public services (Salmon, 2002). Efforts to promote social cohesion in the UK through integration and communitarism have been criticised because they fail to recognise the importance of the wider social and economic inequalities they produce (Franklin, 2001) and have been blamed to direct attention away from the institutional structures and practices of racism that have created existent health and socioeconomic inequalities in the first place (Cheong *et al.*, 2007). Existent sociopolitical schemes, thus, should not overlook the findings that highlight the importance of area deprivation on the erosion of social cohesion, given that initiatives that seek to enhance social cohesion while ignoring the structural factors that are responsible for material deprivation are unlikely to have a major impact (Stafford *et al.*, 2004).

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