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Life Satisfaction, Ethnicity and Neighbourhoods: Is There an Effect of Neighbourhood Ethnic Composition on Life Satisfaction?*

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Abstract

Using a rich, nationally representative data set with a large sample of minorities and matched small area characteristics, we explore differences in life satisfaction for ethnic groups living in UK. We test the hypothesis that minorities will be less satisfied, which will in part be explained by less favourable individual and area contexts, but that living in areas with a larger proportion of own ethnic group promotes well-being. We find that satisfaction is lower among minorities, *ceteris paribus*, but area concentration is associated with higher life satisfaction for certain groups. We discuss the implications of our findings.

Key words: Life Satisfaction, Happiness, Ethnic group, Neighbourhood, Subjective well-being, UKHLS

JEL Codes: I31, J15, R23, O15

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1. Introduction

Ethnic inequalities both in the first (immigrant) and second generations are a source of extensive research both within and across countries (Heath and Cheung 2007). While most analysis has focused on structural inequalities, there are also good reasons for evaluating ethnic minority individuals' subjective assessments of how well their life is going and what that adds to our understanding of their welfare (Shields and Wailoo 2002). Scholars researching life satisfaction (and other measures of subjective well-being such as happiness) have made a convincing case that such measures not only capture very immediate aspects of positive and negative life experience, but are also linked to subsequent outcomes including differences in morbidity and mortality risks (Kahneman and Krueger 2006). Life satisfaction is, therefore, an important outcome and potential source of inequalities, in its own right. It is informative about how well people are faring, all things considered. Following recommendations made in the Stiglitz Report (Stiglitz, Sen and Fitoussi 2009), a number of governments, including the UK government, have started to draw on life satisfaction reports alongside GDP to monitor the economic progress of the nation (Office for National Statistics 2012).

We know an increasing amount about the determinants and correlates of life satisfaction but very few studies have looked at variation in life satisfaction across different ethnic groups and different generations of immigrants (for comprehensive overviews, see, Bruni and Porta 2007; Dolan, Peasgood and White 2008). Similarly, with a few exceptions, ethnic differences in life satisfaction have not received much attention from ethnicity and migration scholars, which is in sharp contrast to the attention given to other aspects of minority ethnic groups' experience. There is of course substantial overlap between those objective factors that ethnicity and migration scholars have demonstrated are unequally distributed across different ethnic groups (and generations of immigrants within them) and those objective factors that the life satisfaction researchers have ascertained impact on how satisfied people are with their lives. But it is also likely that the different contexts of settlement and reception (Portes and Borocz 1989; Rumbaut 2008) experienced by different immigrant groups shape their experience of well-being.

In this paper we integrate discussions of life satisfaction, ethnicity and migration by systematically investigating whether there are differences in life satisfaction across ethnic groups (and across different migration generations within them). We ask, if such differences

are found, to what extent any such differences may be attributed to differences in individual circumstances. While immigrants and their descendants can face challenging contexts, as documented in the extent and persistence across generations of inequalities and discrimination (Heath and Cheung 2007), which are likely to decrease their satisfaction relative to majority populations in aggregate, there may also be compensating characteristics and circumstances that mitigate some of these negative effects. Such factors may be both individual, such as the overall younger age profile of minorities and the tendency towards positive health selection of immigrants, but also contextual, such as the proximity of social support and cultural networks, through relative area concentration.

The unequal spatial distribution of minority ethnic groups is a much researched phenomenon in the social sciences. There is considerable debate about the advantages and disadvantages of geographical concentration of ethnic minority groups. Much of the focus has been on the (positive) economic effects of ethnic 'enclaves' or the negative impacts of ethnic 'segregation' (see, for example, Drever 2004). On the one hand, concentration is supposed to offer potential employment opportunities, particularly for immigrants (first generation); while, by contrast, much evidence has focused on the negative effects of segregation on opportunities and wages. Broader consequences of ethnic concentration on, for example, voter registration (Fieldhouse and Cutts 2008) and to a limited extent health (Bécares, Nazroo and Stafford 2009), have also been found, however, alongside a rich qualitative literature charting the social and cultural resources associated with relative ethnic group concentration that can benefit, in particular, recent immigrants (Bolt, Özüekren and Phillips 2009). One of the main mechanisms by which minorities are argued to benefit from concentration is through its protective effect in relation to racism and harassment (Bécares, Nazroo and Stafford 2009; Phillips 1998; Shields and Wailoo 2002).

If there are indeed such 'protective' effects of own group concentration, we would expect them to be reflected in people's evaluation of their own situation – their satisfaction or happiness. However, there is as yet almost no empirical evidence on whether or not this is the case. Moreover, we would expect this effect to be net of other factors that might be implicated by ethnic group concentration, whether individual employment opportunities and low-income risks or neighbourhood deprivation. Given its association with health, life satisfaction additionally provides a critical mechanism by which area concentration and differences in discrimination (Karlsen and Nazroo 2002) could translate into positive health

and social outcomes for minority groups. By testing whether ethnic concentration promotes well-being, we can not only shed additional light on the ethnic concentration debate but potentially also identify one mechanism by which we may better understand differences in ethnic groups' longer term outcomes.

There are, however, challenges for isolating the 'pure' effect of ethnic group concentration, and testing whether it does indeed have a positive influence on well-being. The first is that areas of concentration are often also areas of relative deprivation (Clark and Drinkwater 2002). This means that unless neighbourhood characteristics are properly accounted for the negative effects of deprivation and positive effects of concentration may cancel each other out. Second, despite the acknowledged diversity of ethnic groups in their migration history, patterns of settlement, socio-economic profile and cultural and social characteristics and resources (Modood et al. 1997; Platt 2005), assessment of ethnic concentration on a range of outcomes often utilises crude aggregate measures of 'non-white'. It is, we suggest, theoretically implausible that the concentration of other minorities rather than one's own group is relevant for outcomes linked to social support, own-language contact, cultural networks, and so on. Measures of diversity *per se* may arguably have rather different and more isolating consequences, such as reduced trust (Putnam (2007), though see Letki (2008) for a challenge to this view), but this aspect of diversity is a separate issue for investigation. It is therefore important to use measures of concentration that are group specific to address the potential protective effects of ethnic density, while allowing for the differences in concentration across groups.

A third issue is that the arguments for the positive consequences of ethnic concentration, in particular in relation to factors such as social support and cultural resources, but also in terms of economic opportunities in the face of language constraints, relate primarily to the experience of immigrants and their families. While there is ample evidence on the internal mobility and segregation patterns of the second generation (Bolt and van Kempen 2009; Finney and Simpson 2008), it is less clear what we might expect to be the impact of ethnic group concentration on the experience of adult second generation minorities who do not move or who select into ethnically dense areas, and how the relationships between choice and constraint (Phillips 1998) play out for them. There is a growing literature on the second generation specifically, which covers both improvements in economic and educational position relative to the immigrant generation, but also charts more critical perspectives,

particularly in relation to sensitivity to racism and discrimination (Heath and Demireva 2014; Platt 2014), alongside persistent ethnic penalties (Heath and Cheung 2007). Since the second generation also illustrates patterns of selective migration out of areas of concentration, with those with more resources more (able and) willing to move (Bolt and van Kempen 2009), we would expect to find somewhat different associations between ethnic concentration and well-being across generations, rather than a single overarching story.

In this paper, therefore, we address the question of whether there are differences in life satisfaction for different minority ethnic groups and whether own ethnic group concentration impacts on minority ethnic groups' evaluation of their life satisfaction in the UK. Moreover we address this question separately for the first and second generation, and controlling not only for differences in individual characteristics that are likely to be linked to well-being, but also for a range of area characteristics, that allow us to separate ethnic group concentration from other potential neighbourhood influences. By using a comprehensive national data set covering a large number of neighbourhoods of different types and with substantial minority group samples, we are able to estimate the discrete impact of ethnic group concentration on individuals' life satisfaction, and variation across disaggregated ethnic groups.

In the next section, we amplify findings from the key life satisfaction, ethnicity and neighbourhood effects literatures that we draw upon in constructing our hypotheses and developing our analysis (Section 2). From this overview we develop the key hypotheses that drive our analysis (Section 3), exploiting the full potential of our data and matched neighbourhood measures to provide a fine-grained analysis of disaggregated ethnic groups across generations and utilising multiple low-level area measures. These measures are discussed in Section 4 on data and methods, while Section 5 provides results, and Section 6 discussion and conclusions.

2. Correlates of life satisfaction and why ethnicity may matter

Life satisfaction is "a reflective appraisal, a judgment, of how well things are going, and have been going" (Argyle 2001) and it is now widely accepted also as a marker of people's experienced utility (e.g., van Praag, Frijters and Ferrer-i-Carbonell 2003). There has been a plethora of research into the determinants of life satisfaction and its importance as an outcome both for individuals and for policymaking, especially since researchers such as Easterlin (1974) started arguing that higher income in itself does not make people happier.

The life satisfaction research has ascertained a number of interesting and consistent relationships between individual characteristics and life satisfaction. First, life satisfaction is U-shaped in age with life satisfaction typically being at its lowest in mid life (e.g., Blanchflower and Oswald 2008). Second, unemployment (Blackaby et al. 1994) and a lower level of financial well-being (see, e.g., Easterlin 1974; Frijters, Haisken-DeNew and Shields 2004) are associated with lower life satisfaction. Third, people who are married are more satisfied with life than never-married singles, divorcees (including those living in separation) and widowers (see, e.g., Shapiro and Keyes 2008). A further consistent finding from the more recent literature is that people who belong to a religion are more satisfied with their life (Lim and Putnam 2010). Last, but not least, it has been found that markers of poor health are significant factors in explaining lower self-reported levels of life satisfaction (Brief et al. 1993; Diener et al. 1999); Diener and Chan (2011) show that happier people also go on to live healthier and longer lives. Findings with respect to other individual characteristics typically included in micro-economic life satisfaction models (such as gender, education and number of children in the household) are, however, mixed (Frijters, Haisken-DeNew and Shields 2004).Yet other characteristics, such as ethnicity and the local neighbourhood (which can be expected to be of paramount importance given the unequal distribution of ethnic minorities in space) have not been researched extensively enough to reach a conclusion as to whether the findings are consistent.

Ethnicity and migration status have been considered as a relevant determinant of life satisfaction by very few empirical studies. Verkuyten (2008), comparing the life satisfaction of native Dutch with that of Turkish immigrants in The Netherlands, found that the life satisfaction of the minority ethnic group (i.e., the Turks) was lower. By contrast, using data from the Fourth National Survey of Ethnic Minorities, 1993-94, Shields and Whailoo (2002) found that, in Britain, Black Caribbean and South Asians were, on average, less unhappy than their White British counterparts, though their measure was one of psychological distress rather than life satisfaction. Research for the United States suggests that Blacks are less satisfied with their lives than Whites (Blanchflower and Oswald 2004), but there is also some evidence which suggests that this may not be true for all minority groups (Dolan, Peasgood and White 2008); Hispanics, for instance, have been shown to be more satisfied with their life than Whites (Luttmer 2005). Heterogeneity in life satisfaction is also reported for different ethnic groups in a Canadian sample, where people with aboriginal backgrounds express a generally lower subjective well-being than those in the non-aboriginal visible minority or

other ethnic groups (Michalos and Zumbo 2001). These associations are robust to including markers of individual socio-demographic and socio-economic characteristics. Moreover, Michalos and Zumbo (2001) found that markers of ethnic and cultural background, social cohesion and prejudice do not explain a great deal of the observed differences in life satisfaction.

Given the correlates of life satisfaction, there are a number of reasons to expect that minority ethnic groups and immigrants in the UK may be less satisfied with their lives than members of the majority ethnic group or host society. On the one hand, belonging to a minority ethnic group tends to be associated with economic and social disadvantage (see, e.g., Cheung and Heath 2007; Modood et al. 1997; Platt 2007b). Many ethnic minority groups and groups of immigrants face higher risks of unemployment (Platt 2007b), earn less (Longhi and Platt 2008), and live in more deprived areas than their majority ethnic counterparts (Simpson et al. 2009). There is, however, great variation across groups; but even so, more successful groups can still face obstacles to social mobility or advancement (Longhi, Nicoletti and Platt 2012; Platt 2007a). In addition, the challenges of acculturation associated with migration (Berry 1997) can create dissonance in the experience of immigrants and impact their satisfaction with life. On the other hand, immigrants are typically positively selected (Bartram 2013). By contrast, in the second generation, which is typically more geographically dispersed and which has greater majority group exposure, we find greater levels of alienation and heightened sensitivity to the discrimination and the inequalities of society (Heath and Demireva 2014; Heath and Roberts 2008), alongside continuing employment and economic disadvantage (Heath and Cheung 2007). Nevertheless, the second generation is undoubtedly doing better than the first generation in the UK as in most European countries.

The unequal distribution of ethnic minorities in space and life satisfaction

Minority ethnic groups tend to be unequally distributed in space (Musterd 2005). Numerous research studies suggest that socio-economic outcomes such as schooling, welfare receipt , (un)employment and health are affected by where we live (for extensive reviews of this body of research, see, e.g., Dietz 2002; Durlauf 2003; Galster and Killen 1995; Jencks and Mayer 1990; Sampson, Morenoff and Gannon-Rowley 2002) but research on subjective evaluations of how life is going is scant. Sirgy and Cornwell (2002) have shown that neighbourhood social features affect life satisfaction via satisfaction with the community while economic attributes of the neighbourhood affect life satisfaction via satisfaction with the house and

home. Shields and Wooden (2003), using data for Australia, found that neighbourhoods which are perceived as places where the neighbours interact socially exert positive effects on people's life satisfaction. A small number of studies reported statistically significant variation in life satisfaction by levels of neighbourhood income, although the direction of the association varies across studies (Clark, Westergård-Nielsen and Kristensen 2009; Graham and Felton 2005; Knies 2012; Knies, Burgess and Propper 2008; Luttmer 2005).

While there is some evidence on associational behaviour and contact outcomes of ethnic groups, there is to our knowledge little research on ethnic groups' life satisfaction and how neighbourhoods play a role in that, in particular the impact of the ethnic composition of the neighbourhoods. There are, for example, a number of studies that test whether living in more deprived or more ethnically segregated neighbourhoods affects the experience and engagement of minorities: Vervoort, Flap and Dagevos (2010) show that minority ethnic groups' social contacts with co-ethnics are higher when the share of co-ethnics in the neighbourhood is higher; moreover, the greater the share of minority ethnic groups or the greater ethnic diversity the less contact ethnic minorities have with the majority ethnic group. But it is not clear from this whether the overall experienced utility is affected by contact/non-contact. For Britain, Fieldhouse and Cutts (2008) looked at the influence of neighbourhood ethnic concentration on increased participation, specifically electoral registration; while Bécares and colleagues have explored the positive relationship between ethnic group concentration and a range of outcomes (Becares, Nazroo and Stafford 2009), including social cohesion (Becares et al. 2011). In addition there is a literature that has explored the negative consequences in terms of trust and solidarity of diversity of an area, a measure, which is linked to the overall number and variation in minorities (Putnam 2007). The conclusions from other contexts are, however, contested for the UK where, it is argued, it is deprivation rather than diversity that impacts trust (Letki 2008). However, studies which link area composition to life satisfaction are lacking.

A study by Schulz et al. (2000) found that lower life satisfaction in Blacks compared to Whites is confounded by the former's higher prevalence of living in high-poverty neighbourhoods, and the greater chance of experiencing unfair treatment in such areas. The study scope was limited to the Detroit area and it is therefore not clear whether results hold in a sample representative of a general population or can be extended to other countries. Moreover, the study used rather broad racial categories, thereby potentially hiding

heterogeneity in effects, mainly in the White group. Another study explored the effect on subjective well-being of natives and immigrants living in areas with lesser or greater shares of migrants in Germany (Akay, Constant and Giulietti 2012). It found that both natives and immigrants experienced greater utility from living in areas with more immigrants, although the results for immigrants were less robust. Interestingly, that study also found that the effect on well-being for natives increased with the degree of assimilation of immigrants up to a threshold. This highlights the importance of recognising the heterogeneity of ethnic groups.

Evans and Kelley (2002) reported that a number of markers of the ethnic composition of neighbourhoods had no net impact on Australians' life satisfaction; preliminary results reported for Germany, suggest the same may hold for both natives and migrants in Germany (Koczan 2012). While ethnic diversity may in fact be irrelevant, there could be positive and negative effects that cancel out. Neither of these two studies considered that there may well be heterogeneity in ethnic composition effects, depending on own group membership. The proportion of co-ethnics in a neighbourhood, besides diversity *per se,* can be argued to determine ones' social networks and experience of harassment and discrimination. Local concentration of one's own group could also influence self-perception as a minority, irrespective of the national proportion of one's ethnic group.

Hence it is clearly important for obtaining robust and meaningful results to account both for diversity across group and to model concentrations that can be convincingly linked to the well-being of particular groups, alongside diversity *per se* which may have more ambiguous consequences.

Against this background, our paper makes a significant contribution to the emerging literature on the experienced utility of neighbourhood ethnic composition by providing for the first time empirical evidence from Britain using new large-scale nationally representative data that include a minority ethnic boost. This has advantages over the small, regional samples typically analysed in the field of ethnicity and neighbourhood effects research, in particular as it allows us to focus on heterogeneity across finer ethnic group categories and across a wide range of different neighbourhood contexts.

3. Hypotheses

Our first set of hypotheses relate to patterns of life satisfaction across minority relative to majority groups – and the extent to which these will be linked to known correlates of subjective well-being.

Hypothesis 1: Ethnic minorities in the UK are less happy than the White UK majority, but there will be variation across groups. This will be due to a range of factors that include differences in individual characteristics, differences in neighbourhood and differences related to processes of migration and majority society reception, including experiences of dislocation.

Hypothesis 1a: Hence, some of the difference will be explained by compositional effects. Minority ethnic groups are heterogeneous both in terms socio-demographic characteristics and those characteristics linked to higher life satisfaction.

Hypothesis 1b: Some of the difference can also be explained by neighbourhood effects. Ethnic minorities tend to cluster in certain areas, many of which are economically deprived. In addition to deprivation, life satisfaction may also depend on the sort of amenities available in the area, the type of people living there and so on.

Hypothesis 1c: Net of individual characteristics and area deprivation or type, we expect first generation ethnic minorities, particularly recent arrivals, to be happier than UK born minorities. Immigrants' reference group tends to be the group of people similar to them in their home country who may be relatively materially disadvantaged, and migrants are known to be positively selected (Bartram 2013). However, on the other hand they will still be unhappy relative to the White UK majority (main Hypothesis 1) because those who migrate are more likely to be a very select group, often referred to as "frustrated achievers" (see Graham and Markowitz (2011) in: Koczan (2012)). Second generation ethnic minorities on the other hand have as their reference group the White UK majority, with whom they will share similar experience and expectations, but find they are faced with a different reality. Second generation ethnic minorities are more likely to report being discriminated against and have a more negative perspective on the fairness of the society they face (Heath and Demireva 2014; Platt 2013). They will therefore be less happy than their first generation parents.

Our second set of hypotheses relate to the role of ethnic group concentration specifically in influencing life satisfaction.

Hypothesis 2: Living near members of one's own ethnic group increases life satisfaction. Living in areas with a higher proportion of co-ethnics protects against discrimination and provides social and cultural resources for minorities (Bécares, Nazroo and Stafford 2009; Phillips 1998; Shields and Wailoo 2002). Area concentration has been linked to psychological well-being (Shields and Wailoo 2002) and life satisfaction could be one route to that. Ethnic density may additionally reduce feelings of being the outsider at least in the neighbourhood, hence alleviate the pain associated with social exclusion (Eisenberger, Lieberman and Williams 2003).

Hypothesis 2a: Nevertheless, areas of own group ethnic minority density will tend also to be areas of higher ethnic diversity. Ethnic diversity of the neighbourhood may affect happiness via lower social cohesion. Even though existing studies for the UK have shown that it is area deprivation (see Hypothesis 1b) which is more harmful for social cohesion and trust than ethnic diversity (Becares et al. 2011; Laurence 2011; Letki 2008), we anticipate that ethnic diversity at a given level of ethnic group concentration will be associated with lower satisfaction.

Hypothesis 2b: First generation minorities will benefit more from own ethnic group members in the neighbourhood than the second generation, and hence ethnic density will be associated with higher life satisfaction for the first generation with lower or negligible effects for the second generation. Existing research into the behaviour, attitudes and outcomes of minority ethnic groups in the UK has shown there are significant differences by generation (Cheung 2014; Heath and Demireva 2014; Heath and Cheung 2007; Parameshwaran 2014; Platt 2013; Sanders et al. 2014). As the first generation, particularly recent arrivals are less familiar with host country, they will be able to communicate better with same ethnic group members and also learn about the host country from them (Phillips 1998). The second generation, being born and brought up in the UK, should have no additional advantage from living near own ethnic group members. Moreover, to the extent that ethnic minority values and cultural practices are different from those with which the second generation feel at home, UK born minorities may feel happier in areas with fewer co-ethnic members who may demand greater adherence to values and practices of their ethnic group or channel their occupational opportunities (Clark and Drinkwater 2002). However, those who remain (or select to locate)

in areas of relatively high concentration may nevertheless reap some benefits from ethnic enclave effects (for instance, in the labour market, see Waldinger and Lichter 2003).

We test these groups of hypotheses in an analysis that uses a large, nationally representative sample, with large numbers from discrete ethnic groups, a wealth of individual-level variables and covering a wide range of areas, with varying characteristics, to which we match appropriate area-level measures. In the next section we outline these data and our analytical strategy, before discussing the results and how they relate to our hypotheses in Section 5.

4. Data and Methods

Survey

We use data from the first wave of *Understanding Society*: the UK Household Longitudinal Study (UKHLS). The UKHLS is an annual longitudinal household panel survey that started in 2009 with a nationally-representative stratified, clustered sample of around 30,000 households living in the United Kingdom. The study incorporates an ethnic minority boost sample of approximately 4,000 households where at least one member (or their parents or grandparents) was from an ethnic minority group. The boost was designed to ensure at least 1000 adult interviews from Black African, Bangladeshi, Caribbean, Indian and Pakistani ethnic groups, but also covers other ethnic groups in smaller numbers. Across the study, all adults (16 years or older) within sampled households were eligible for the main interview which included questions on various domains, including income, employment, health, education and a range of well-being measures. All members of the households interviewed in the first wave and the children of the women in these households became eligible for future interviews.[4]

This study is particularly suited for our analysis. First, the study oversamples members of minority ethnic groups. This allows us to investigate in great detail the life situation of different minority groups living in the UK. Existing research has repeatedly shown that these ethnic minority groups are very different in terms of their behaviour and life experience and so treating them as a homogeneous group is not revealing (Modood et al. 1997). However, small sample sizes often make it impossible to analyse groups separately. With the large sample size and the ethnic minority boost sample of UKHLS, we are able to overcome this constraint. Second, observing 30,000 households which were sampled from more than 2,640

primary sampling units and stratified by region, the UKHLS provides wide geographical spread. Combined with the possibility of linking the study member's addresses with published official statistics at rather immediate levels of spatial aggregation, this allows us to investigate with greater statistical power how well-being co-varies with neighbourhood contexts. Last but not least, the broad content of the study means we have access to information on life satisfaction as well as all those characteristics which have been linked to it.

Individual Level Characteristics

Our dependent variable, life satisfaction, is collected in the adult self-completion questionnaire on the basis of a question where respondents are asked to report how satisfied or dissatisfied they are with their *life overall* on a 7-point scale where response categories run from 1 "completely dissatisfied" to 7 "completely satisfied"; and all response categories are labelled.

Our key independent variable is ethnic group membership. We measure ethnic group using the UK Census 2011 ethnic group question that was asked of all adult respondents. This question took the form: "What is your ethnic group" and respondents selected an ethnic group from a list of 18 categories including an "other" category. We collapsed these ethnic groups into the following groups: White UK, White Other or Irish, Mixed, Indian, Pakistani, Bangladeshi, Caribbean and African. See Appendix Table1 for details.

To stratify the sample by immigrant generation, we use a question on country of birth and divide those born in the UK (second and subsequent generations) from those born outside (first generation). Note that the UKHLS includes a small number of White UK who report that they were born outside the UK: we exclude them from our study.

To absorb inasmuch as is possible heterogeneity in individual characteristics, we consider in our analysis markers for the following individual characteristics: age, sex, family context (i.e., marital status, and number of own children in the household), financial situation (i.e., household income and home ownership), work (i.e., employment status), education (i.e. highest qualification), whether belongs to a religion, and health (i.e., whether respondent has a longstanding illness/disability, and whether diagnosed with a health problem).[5] As detailed in Section 2, these are standard measures included in (micro-economic) life satisfaction

[4] For further detail on the study design and data access consult www.understandingsociety.ac.uk.

models. Given the focus on life satisfaction of minority ethnic groups and neighbourhoods, we expanded the standard set of controls. First, for those who were born outside the UK (first generation) we explore heterogeneity between those who arrived in the UK less than 10 years ago and those who arrived more than 10 years ago based on a question on year of arrival. Second, we include a dichotomous indicator for whether or not a person lives in area with more than 10,000 people (dubbed: "urban area"). The measure is derived from the Office for National Statistics urban-rural indicator and, unlike the other neighbourhood level data that we use in the research, is provided with the UKHLS data.

Area/Neighbourhood level characteristics

To test our hypotheses regarding the neighbourhood context (outlined in Section 3), we also needed measures of neighbourhood deprivation and neighbourhood quality so as to get an unbiased estimate of the effects of the neighbourhood ethnic composition. Such neighbourhood level measures are not generally available with the UKHLS data. However, it is possible to obtain permission to access a look-up file between household identifiers and select local area identifiers which are used in official statistics and to then merge in information from published tables using that area identifier.

For the purpose of this study we requested access to the so-called Lower Super Output Area (LSOA)[6] codes as per Census 2001. LSOA are intermediate- level Census output units that cover around 1,000 to 1,500 individuals, and there were 32,482 LSOAs in England in 2001.[7] The LSOA geography is used to monitor regeneration in England which means there is a wealth of area data that is produced at this scale.

We use the Townsend Deprivation Index (Townsend, Phillimore and Beattie 1988) as a marker for area deprivation.[8] The index, which is also referred to as Townsend score, draws

[5] For exact question wording we refer the reader to the study questionnaires which are available on the study homepage, www.understandingsociety.ac.uk

[6] There is little theoretical guidance as to the most appropriate definition of area for our analysis. But important considerations are that if the boundaries are drawn too tightly, important population heterogeneity may be missed, and if they are drawn too broadly any genuine neighbourhood contact and context effects may be disguised. The intermediate Census output unit provided a happy medium between these two constraints.

[7] Note that LSOAs are not necessarily stable over time. ONS periodically reviews Census output areas. Such changes to the geographical area an LSOA refers are a nuisance when we undertake longitudinal analyses (or interpolate information from different Censuses to get a more contemporaneous estimate of the neighbourhood context as we do) because we cannot be sure whether the quality of the area has changed or whether the change in neighbourhood characteristics is an artificial effect of aggregating different places.

[8] Indices of Multiple Deprivation (IMD) would be an alternative choice. IMD cover a larger number of domains and are not just based on the information gathered on Census day, see Noble et al. (2006). However, the indices provide a rank score, hence, the difference in deprivation between an area with rank of 20 and 25 is not the same as that between 25 and 30. Moreover, the rank of an area may change even if the actual deprivation level has not changed – thus making it non-comparable over time. At any point in time, Townsend Score and IMD are highly

on Census data and considers the (neighbourhood) proportion of economically active residents aged 16-59/64 who are unemployed (excluding students), proportion of private households who do not possess a car or van, proportion of private households that are not owner occupied, and proportion of private households that are overcrowded (i.e., more than one person per room). Positive values of the score indicate high material deprivation, a score of zero represents overall mean deprivation, and negative values indicate relative affluence. The index has been calculated and was made available for LSOA in 2001 by Public Health England (WMPHO 2008).[9]

In addition to the Townsend score we use Experian's MOSAIC neighbourhood typology (Experian Limited 2009) to capture heterogeneity in neighbourhood contexts. The MOSAIC typology makes use of data from a number of different sources, including the UK census, consumer credit data, postal address files, council tax data, edited electoral rolls, ad-hoc lifestyle and large scale social surveys[10] to group people into 61 types based on the typical characteristics of where they live. Demographic profiles, the built environment, the economy, as well as consumer values, financial well-being and consumption patterns are factors in discriminating between types. The geographical reference is the unit postcode which, in the UK, covers an average of around 16 households.[11] The (estimated) number of households which fall into each type is aggregated to the spatial scale of LSOA and the neighbourhood typology is made available free of charge to the scientific community.[12] Thus, for each LSOA there is an estimate of the number of households who fall into type 1, type 2 through to type 61. In our study we use a collapsed version of the typology which concatenates the 61 types into 11 groups, referred to by Experian as Groups A to K. Appendix Figure A2 provides a brief description of the groups; for a more detailed account see Experian Limited (2003). Our area level measures, therefore, refer to the proportion of all households in the LSOA which

correlated, see Appendices, Figure A1, and while we report the results using the Townsend Score, the results using the IMD are almost identical (results available from the authors upon request).

[9] Indicators from Census 2011 required for calculating the score are not (yet) available.

[10] Information on precise data origin and precise data generation procedures is kept as a business secret. This highlights one of the limitations of using micro-marketing data in academic research, as pointed out, for instance, by Longley and Harris (1999): there is no guarantee that the data provided are of good quality. The 'scattergun' (ibid.) approach to data collection, i.e., the strategy of employing data that may or may not fulfil academic standards (in terms of response rates, sampling issues, response biases) in fact suggests the opposite. However, if the neighbourhood indicators were of bad quality, this will be revealed at the latest in poor returns to advertising campaigns and the companies will decide not to use the provider's data again. In the competitive market for commercial data, providers of low-quality indicators will not survive in the long run.

[11] http://www.dataplanning.co.uk/pages/t4t-whatis-data-home.htm

[12] Development of the MOSAIC classification was supported by the Economic and Social Research Council.

are of each of these 11 types. In urban areas, less than 0.3per cent of households are classified as living in "rural isolation", so we decided to omit that category in the analysis.

Note that we will not interpret the results on area deprivation or MOSAIC group in any way. The neighbourhood characteristics are used merely to absorb as far as possible any heterogeneity in neighbourhood contexts which may be responsible for any associations with ethnicity or the ethnic composition in the neighbourhood, our key neighbourhood-level characteristic of interest.

Our key neighbourhood-level characteristic of interest is the ethnic composition in the neighbourhood. Data from the UK Census 2001 and 2011 provided the number of individuals from the different ethnic groups living in the LSOA. We interpolate the 2001 and 2011 population counts to get a contemporaneous estimate of how many people of each ethnic group live in the LSOA area.[13] As the ethnic group question in UKHLS is the same as that in the census, it was straightforward to compute proportion of own ethnic group members living in the LSOA.

The distribution of proportion co-ethnic is very different for White UK and all other ethnic groups (Figure 1) which means that in a pooled model of all ethnic groups the coefficient of proportion co-ethnic, which is an average effect of all groups, will be dominated by the effect of White UK. Instead of including a single measure of proportion of own ethnic group, therefore, we included measures of slightly broader ethnic group concentrations and main effects and interacted these with the appropriate individual level ethnic group, to ascertain the relationship between own ethnic group and life satisfaction. That is, we included proportion of Other White, South Asian, Black and Chinese in the model. These give the impact of concentrations of each of these aggregate groups on respondents' satisfaction (though the effects will, again, be dominated by those for the White UK majority). We then interacted those broader categories with own ethnic group. For Indians, Pakistanis and Bangladeshis we interacted with the South Asian area concentration measure; for Black Caribbeans and Black Africans, we interacted own ethnic group with the Black groups concentration measure, and

[13] Some of the boundaries of LSOA we observe in the study have been redrawn across the 2001 and 2011 censuses. LSOAs may change between censuses to reflect additional residential units, which in turn reflect a changing neighbourhood. However, we can evaluate which LSOAs are and are not comparable over time: ONS provides a look-up file indicating which areas were split, merged, changed in more complex ways or remained identical. Where we know that an area was split or merged with another area in a straightforward way we aggregated the population counts of the respective areas and Census so that the neighbourhood units referred to are identical over time. We tested whether changes in LSOAs impacted our findings by re-estimating our analysis restricting our sample to those LSOAs that remained unchanged between 2001 and 2011 census. Results (available from the authors on request) were unchanged.

for Other White we interacted individual level ethnic group with the Other White concentration area variable. We used the broader measure of ethnicity at area level to ensure the robustness of our measure across the large number of relatively small LSOAs and further justified this decision by the fact that within the aggregated groups there is considerable recognition of some affinity (Muttarak 2014), and, moreover, settlement patterns are more likely to overlap (Peach 2006). This measure provided a relatively comparable distribution of ethnic group concentration across generations within groups, even though the distributions between minority groups show some variation, see Figure 2.

Figure 1
Distribution of proportion co-ethnic across LSOAs (Kernel-Density plot)

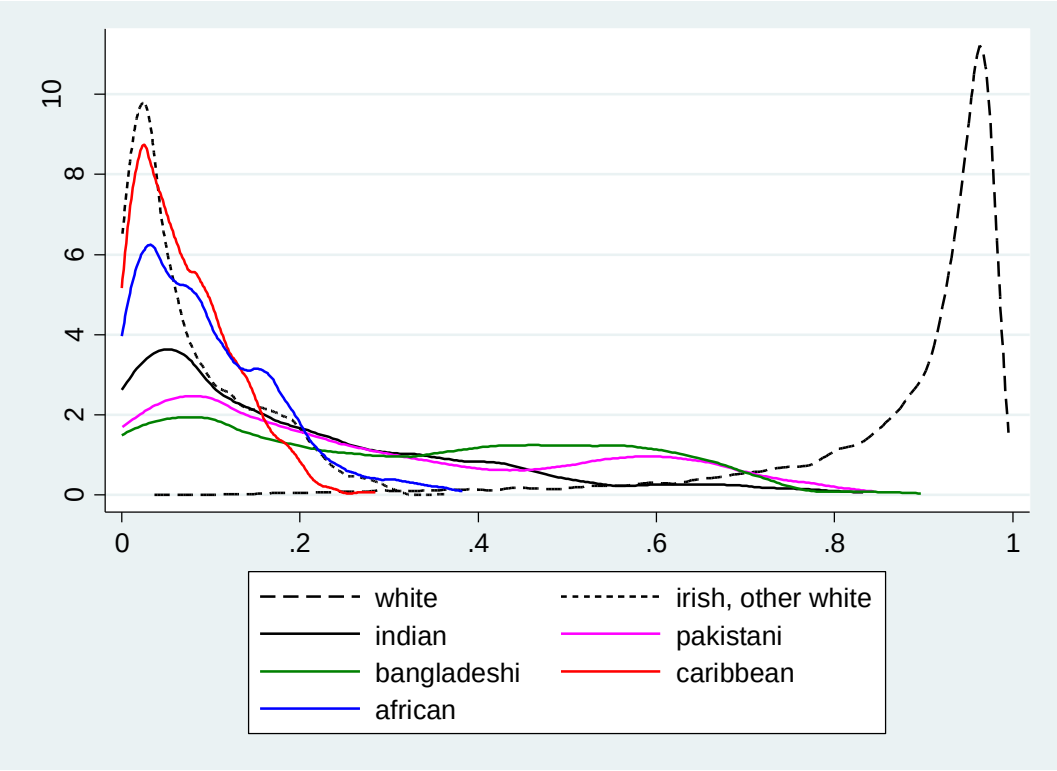
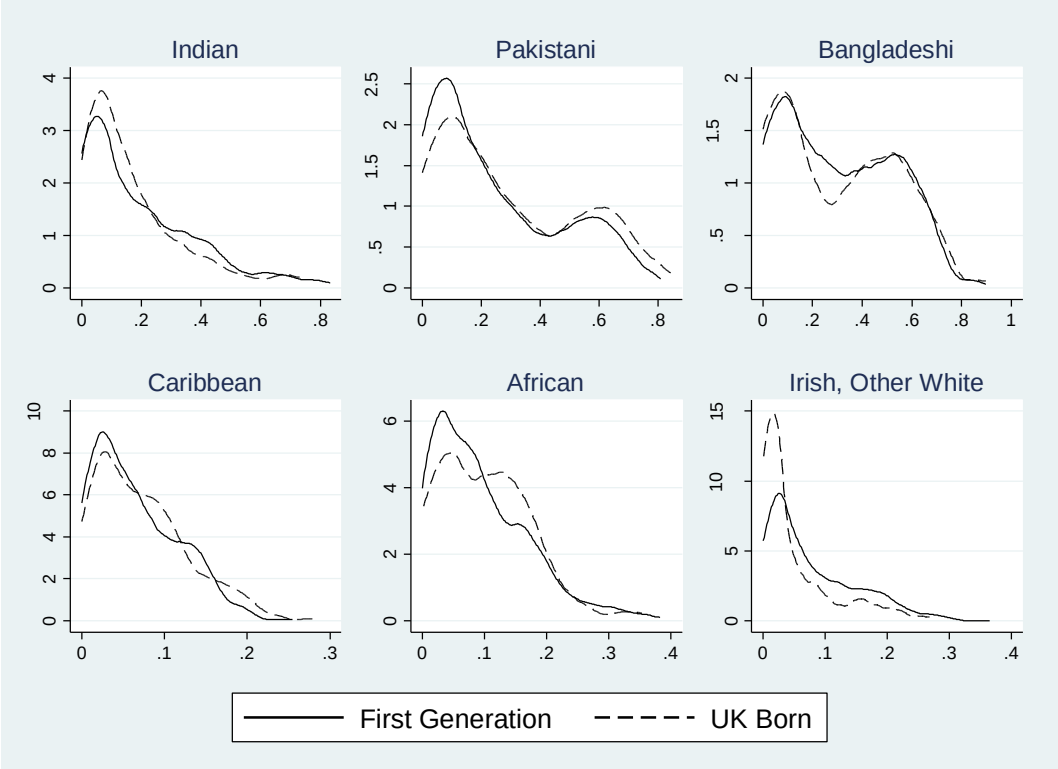


Figure 2
Distribution of proportion co-ethnic across LSOAs for minority ethnic group and by generation (Kernel-Density plot)



Finally, we also used interpolated population counts from the 2001 and 2011 censuses to compute the Herfindahl-Hirschman Index ("Herfindahl index") in the neighbourhood. The Herfindahl index is widely used to measure the concept of ethnic diversity (Putnam 2007). It is defined as the sum of the squares of the group shares where the shares are expressed as fractions. The index can range from zero when all groups are represented with a small number of people to 1 where only one group is represented. We consider the following groups in constructing the index: White British, White Irish, Other White, White and Black Caribbean, White and Black African, White and Asian, Other Mixed, Indian, Pakistani, Bangladeshi, Other Asian, Caribbean, African, Other Black, Chinese, and Other ethnic group.

Sample restrictions

The Townsend Score 2001 was only available for England and, therefore, we restrict the sample to England only. We do not expect this restriction to severely bias our results as more than 90 per cent of ethnic minorities live in England. The only exception is the Irish – almost half of those who identify as White: Irish live in Northern Ireland. Additionally, by restricting

the analysis to English residents only we avoid any confounding of country level effects as studies show that average levels of life satisfaction may differ by UK countries (Bell and Blanchflower 2007).

In our ethnic group categorisation, White UK provides the majority reference category and for that reason we excluded any respondents self-defining as White UK, but who were born outside the UK.

Other than this, we do not apply any further general sample restrictions. Placement of the question in the self-completion instrument necessitated our restricting the analysis to all those who completed the adult interview themselves (as opposed to by someone else on their behalf) as well as the self-completion questionnaire.

Descriptive summary statistics describing the sample and the variables used in the analysis are provided in Appendix Table A2.

Methods

We first provide univariate population statistics to describe the population living in England with respect to the characteristics explored in this research. To investigate differences in life satisfaction across different ethnic groups and across generations within them, we then estimate a series of multivariate Ordinary Least Squares regression models. The decision to model life satisfaction using OLS regression techniques is based on the implicit assumptions that our measure of life satisfaction is comparable across individuals, including individuals from different cultural groups, and that it is a cardinal measure. In assuming the cardinality of the measure, we follow accepted practice in the analysis of happiness, and Ferrer-i-Carbonell and Frijters (2004) have shown that cardinal and ordinal measures produce similar results. The assumption that our measure of happiness is comparable across cultural groups is potentially a stronger assumption. Nevertheless, studies have found favourable support for interpersonal comparability at an ordinal level within cultural groups, see van Praag, Frijters and Ferrer-i-Carbonell (2003). By contrast, experiments conducted by Oishi (2002) shows that Europeans and Americans are more likely to report higher scores on retrospective well-being than Asians (even though there was no difference in reports of immediate experiences). Koczan (2012) suggests checking this by looking at the pattern of correlations between life satisfaction measures and individual factors for different groups. If they are similar then their scores are comparable. Separate group analyses (see Appendices, Table A5), demonstrated that the relationships between individual characteristics and life satisfaction measures are

consistent across groups, supporting our assumption of comparability. However, responses to questions in different languages may be interpreted differently, we thus carry out a robustness check, discussed further below, involving the exclusion of translated questionnaire instruments.

Our main analysis proceeds in stages. To investigate our first set of hypotheses, we first look at raw correlations between life satisfaction and ethnicity (Model 1), and then add in additional controls to adjust, first, for any effect on life satisfaction associated with individual level characteristics (Model 2) and, second, additional controls for any characteristics of the neighbourhoods which we hypothesise may be correlated with life satisfaction and the spatial distribution of ethnic minorities, namely area deprivation and socio-cultural milieux (Model 3). We view any coefficient on the ethnicity variables that is negative and statistically significant as supporting our first main hypothesis. To investigate our second set of hypotheses we then add in measures of the ethnic composition in the neighbourhood (Model 4). Our focus is on the coefficients on the interaction terms of own ethnic group with the proportion own ethnic group in the neighbourhood. We view any coefficient that is positive and statistically significant as supporting our second main hypotheses. Note that some of our hypotheses relate to effect-heterogeneity across different immigrant generations; we therefore provide results for the whole sample and also stratify by immigrant generation.

We additionally subject our results to a number of robustness tests, to test the sensitivity of our findings to particular sampling exclusions. The first robustness test excludes those who had interviews conducted through translated instruments. This was because our measure of life satisfaction may have been sensitive to the precise phrasing and linguistic conventions in the translated version. The second robustness test focused the analysis solely on those living in metropolitan areas. This derived from the fact that the majority of ethnic minorities live in metropolitan areas. Hence, we have more limited opportunity to test the comparability of our findings equally across more rural areas. If there are differences in the quality of life in lesser urban and rural areas which impact on life satisfaction then some of the negative coefficient that we observe for ethnic minority groups may be reflecting this unobserved rural quality of life factor.

The third robustness test relates to issue of selection into areas, a feature of neighbourhood analysis that is much discussed in the literature (Galster 2008). An individual's selection into a neighbourhood may be considered a choice although for some it is less an issue of preferences than constraints (van der Laan Bouma-Doff 2007). In other words, people tend to

choose to live in areas where they are happy. If the neighbourhood characteristics that affect a person's life satisfaction are unobserved and correlated with the ethnic composition of the neighbourhood then any observed positive effect of proportion co-ethnic may reflect the effect of the unobserved characteristics. To check for potential selection we utilise a survey question that asked respondents if they would like to move from their neighbourhood. If they answered in the affirmative, we can assume that their current neighbourhood is not their preferred choice and so for these people unobserved characteristics that positively affect happiness or life satisfaction are not present. Compare also Clark and Drinkwater (2002). The estimates for this sub-sample may therefore be regarded as a lower bound estimate of the hypothesised positive effect of higher own-group ethnic concentration.

The analysis is conducted using the analysis software Stata 13. We use the programme's svy suite of commands to ensure that standard errors are corrected for the complex design of the survey, which involves clustered, stratified random sampling in Great Britain. All results are weighted using cross-sectional self-completion response weights to correct for any bias due to unequal selection probabilities and non-response.

5. Results

Table 2 provides estimates for the individual and neighbourhood characteristics we explore for the population living in England, by ethnic group and generation. It shows that the factors we expect to be associated with life satisfaction differ by ethnic group. With the exception of first generation Caribbeans, minority groups tend to be younger, and this is particularly the case for the UK born minorities and for the three South Asian groups (i.e., Indians, Pakistanis and Bangladeshis). The minority groups tend to be relatively highly qualified, though the Pakistani and Bangladeshi distribution of qualifications in the first generation is quite polarised, and the Caribbean first generation has slightly lower than average rates of graduates. Given the age structure, minority group employment rates are relatively low, and this is in part due to low female participation rates among Bangladeshis and Pakistanis, and, to a lesser extent, Indians. Health problems are also linked to age structure, and hence show considerable variation across groups, with the Caribbean first generation again being closest to the white majority pattern. There are also substantial variations in family patterns – there is a higher presence of dependent children in minority groups but also a higher rate of singles and in the UK born South Asian group in particular. Household resources are also unevenly

distributed, specifically income and owner occupation, reflecting the much lower command of financial resources and higher poverty rates that are faced by most minority groups (Platt 2007b), with the White Other group being in a relatively privileged position (Dickens and McKnight 2008). Variation across groups and generations also exists with respect to neighbourhood characteristics. Whilst 26 per cent of White UK live in metropolitan areas, the same is true for more than 50 per cent of minorities and amounting to 84 per cent among UK born Blacks. All minorities live in relatively more deprived areas but, again, there is considerable variation. Interestingly, the overall more unfavourable neighbourhood contexts faced by ethnic minorities do not straightforwardly translate into expressing a preference for moving: Around 40 per cent of South Asians say they prefer to move which is the same as White UK. By contrast, around 50 per cent of the Other White and Black groups state that they prefer to move. This suggests that minorities will on balance have characteristics that would in an unadjusted analysis tend to make them both happier (e.g. youth) and less happy (e.g. family income) than the majority, but that there is substantial diversity between groups.

Table 2
Population characteristics[1] of individuals and their neighbourhoods by ethnic group and generation

	White UK	Other White		Mixed		Indian		Pakistani		Bangladeshi		Black Caribbean		Black African	
	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born
Female	0.51	0.56	0.43	0.55	0.57	0.39	0.49	0.40	0.48	0.36	0.50	0.53	0.60	0.51	0.51
Age Group															
16-24 years	0.14	0.14	0.12	0.23	0.40	0.12	0.40	0.13	0.51	0.16	0.47	0.07	0.21	0.19	0.44
25-29 years	0.07	0.17	0.13	0.10	0.15	0.12	0.13	0.15	0.20	0.16	0.17	0.08	0.11	0.13	0.12
30-44 years	0.24	0.39	0.35	0.34	0.29	0.35	0.43	0.39	0.29	0.47	0.17	0.17	0.41	0.45	0.34
45-59 years	0.25	0.16	0.29	0.23	0.13	0.27	0.03	0.24	0.01	0.15	0.12	0.38	0.27	0.18	0.10
60+ years	0.29	0.14	0.11	0.11	0.04	0.14	0.00	0.10	0.00	0.05	0.07	0.30	0.00	0.04	0.00
Highest Educational Qualifications															
Degree	0.20	0.41	0.45	0.33	0.26	0.50	0.39	0.36	0.28	0.28	0.21	0.18	0.23	0.37	0.36
Other higher	0.11	0.15	0.07	0.09	0.13	0.12	0.08	0.07	0.10	0.07	0.05	0.11	0.18	0.17	0.11
A-level or equivalent	0.20	0.14	0.22	0.28	0.26	0.11	0.30	0.13	0.28	0.19	0.36	0.20	0.23	0.20	0.30
GCSE or equivalent	0.23	0.07	0.13	0.15	0.27	0.10	0.19	0.14	0.27	0.17	0.23	0.20	0.26	0.14	0.23
Other or no qualifications	0.26	0.24	0.12	0.14	0.08	0.17	0.04	0.30	0.08	0.30	0.15	0.31	0.11	0.13	0.00
Current activity status															
In paid employment	0.48	0.54	0.53	0.49	0.47	0.56	0.54	0.36	0.36	0.43	0.48	0.40	0.57	0.51	0.44
Self-employed	0.07	0.12	0.07	0.08	0.05	0.08	0.05	0.12	0.05	0.09	0.06	0.09	0.06	0.04	0.08
Retired	0.23	0.11	0.08	0.08	0.02	0.10	0.00	0.07	0.00	0.02	0.05	0.25	0.00	0.03	0.00
Unemployed	0.06	0.06	0.12	0.08	0.12	0.07	0.07	0.10	0.13	0.11	0.06	0.11	0.14	0.12	0.07
Other	0.15	0.18	0.21	0.26	0.34	0.20	0.34	0.36	0.45	0.35	0.34	0.15	0.23	0.30	0.41

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Table 2
(Continued)

	White UK	Other White		Mixed		Indian		Pakistani		Bangladeshi		Black Caribbean		Black African	
	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born
Partnership status															
Single or never married	0.22	0.28	0.33	0.29	0.57	0.18	0.56	0.18	0.54	0.20	0.57	0.28	0.58	0.35	0.64
Married or cohabiting	0.64	0.61	0.61	0.60	0.38	0.76	0.41	0.73	0.41	0.74	0.39	0.49	0.35	0.54	0.29
Separated or divorced	0.08	0.07	0.05	0.07	0.05	0.03	0.03	0.06	0.04	0.04	0.03	0.17	0.07	0.09	0.07
Widowed	0.06	0.04	0.01	0.03	0.00	0.03	0.00	0.02	0.00	0.03	0.01	0.06	0.01	0.02	0.01
No. of own kids in household[c]	0.43	0.46	0.40	0.49	0.49	0.64	0.60	1.12	0.83	1.32	0.35	0.38	0.65	0.94	0.68
Total monthly personal income in £1k[c]	1.60	1.84	2.30	1.59	1.38	1.69	1.58	1.23	0.95	1.41	1.07	1.48	1.67	1.37	1.53
Owner of a house or flat	0.73	0.39	0.63	0.46	0.53	0.61	0.84	0.64	0.81	0.44	0.73	0.55	0.50	0.23	0.41
Long standing illness or disability	0.38	0.23	0.38	0.25	0.26	0.23	0.15	0.27	0.16	0.24	0.14	0.37	0.27	0.14	0.14
Has a health problem	0.50	0.29	0.46	0.36	0.40	0.32	0.25	0.35	0.22	0.30	0.26	0.53	0.42	0.22	0.25
Belong to a religion	0.47	0.63	0.62	0.63	0.43	0.87	0.80	0.95	0.97	0.96	0.85	0.73	0.61	0.93	0.83
Arrived in the UK less than 10 years ago	1.00	0.60	1.00	0.46	1.00	0.47	1.00	0.38	1.00	0.36	1.00	0.19	1.00	0.62	1.00
Lives in an urban area	0.78	0.89	0.89	0.93	0.94	0.97	0.97	1.00	0.98	1.00	0.91	0.99	0.99	0.98	0.98
No. years lived at current residence[c]	13.94	6.39	9.01	7.52	8.89	9.85	11.52	8.92	10.84	8.78	14.32	13.63	10.99	4.54	8.53
Prefer to move	0.39	0.42	0.51	0.55	0.51	0.33	0.40	0.37	0.37	0.41	0.35	0.54	0.55	0.53	0.45
Lives in a metropolitan area	0.26	0.51	0.59	0.48	0.60	0.64	0.64	0.72	0.69	0.83	0.69	0.73	0.76	0.73	0.84
Whether 2011 LSOA changed since 2001	0.03	0.05	0.02	0.03	0.04	0.05	0.03	0.03	0.03	0.05	0.04	0.04	0.03	0.06	0.06

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Table 2
(Continued)

	White UK	Other White		Mixed		Indian		Pakistani		Bangladeshi		Black Caribbean		Black African	
	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born
Proportion co-ethnic[c]	0.87	0.09	0.06	0.01	0.01	0.17	0.15	0.21	0.26	0.16	0.12	0.06	0.06	0.08	0.09
Proportion Other White[c]	0.04	0.11	0.11	0.10	0.09	0.08	0.07	0.08	0.07	0.11	0.08	0.12	0.11	0.11	0.12
Proportion South Asian[c]	0.04	0.08	0.08	0.10	0.10	0.29	0.28	0.36	0.40	0.33	0.28	0.17	0.16	0.13	0.11
Proportion Black Caribbean or African[c]	0.02	0.06	0.07	0.08	0.07	0.07	0.07	0.08	0.06	0.11	0.07	0.15	0.16	0.15	0.16
Proportion Chinese[c]	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
Herfindahl Index[c]	0.79	0.55	0.55	0.53	0.55	0.43	0.43	0.36	0.40	0.31	0.46	0.36	0.34	0.39	0.36
Townsend score[c]	-0.58	1.36	1.11	1.68	1.41	1.71	1.68	3.65	3.52	5.66	3.28	3.16	3.44	4.03	3.34
Proportion of households of type[c]															
Symbol of Success	0.11	0.12	0.13	0.10	0.11	0.08	0.08	0.03	0.04	0.04	0.04	0.05	0.06	0.04	0.05
Happy families	0.12	0.08	0.08	0.09	0.08	0.07	0.08	0.05	0.04	0.05	0.06	0.06	0.05	0.07	0.08
Suburban Comfort	0.18	0.12	0.15	0.12	0.14	0.26	0.27	0.16	0.16	0.08	0.16	0.16	0.15	0.08	0.12
Ties of community	0.16	0.16	0.16	0.20	0.17	0.26	0.27	0.45	0.48	0.33	0.34	0.26	0.25	0.22	0.21
Urban Intelligence	0.06	0.22	0.24	0.18	0.16	0.12	0.08	0.07	0.07	0.14	0.08	0.19	0.16	0.17	0.21
Welfare borderline	0.04	0.09	0.08	0.13	0.11	0.05	0.08	0.10	0.07	0.26	0.15	0.14	0.18	0.23	0.18
Municipal dependency	0.06	0.03	0.02	0.03	0.06	0.03	0.04	0.05	0.05	0.02	0.02	0.04	0.05	0.06	0.03
Blue collar enterprise	0.10	0.07	0.06	0.06	0.08	0.06	0.06	0.06	0.04	0.05	0.06	0.06	0.08	0.09	0.09
Twilight subsistence	0.03	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01
Grey perspectives	0.08	0.07	0.05	0.05	0.06	0.04	0.03	0.02	0.01	0.01	0.04	0.03	0.01	0.02	0.01
Number of observations	24,611	1,077	190	222	435	867	438	487	381	380	221	360	414	782	130

Source: Understanding Society, Wave 1, 2009/10, linked with Census 2001 and 2011. Results weighted and adjusted for survey design.
1 Most characteristics are a dichotomy and may therefore be interpreted as proportion. Continuous variables are marked [c].

We report the main results relating to hypothesis 1 in Table 3. Table 3 shows just the results relating to ethnic group in a pooled model (panel 1) and separately for the first (panel 2) and UK born (panel 3) generations of each group. We refer the reader to associated Tables A3A-A3C in the Appendix for the results from these models for all variables; the relationships for the other variables are in the expected directions.[14]

Model 1 in Table 3 includes only ethnic group dummies; Model 2 adds individual characteristics – to ascertain if hypothesis 1a holds; and Model 3 additionally includes area level characteristics other than those related to ethnic composition to assess hypothesis 1b. All results are reported for the whole sample in the top panel and then we inspect them separately for first generation ethnic minorities and for UK born minorities to test hypothesis 1c, that is, whether there are differences in happiness between the first and subsequent generations. The (UK born) White UK majority provides the reference group in all cases.

The top panel of Table 3, then, demonstrates that the results support our first set of hypotheses. Ethnic minorities are less happy than the White majority and this result persists even after we control for compositional effects (hypothesis 1a) and area effects including area deprivation (hypothesis 1b). Indeed, in Model 2 the negative effects even increase for some groups, illustrating the extent to which their individual characteristics are positively related to life satisfaction, for example in terms of age. Overall, individual characteristics do little to change this main effect of being less happy.

When area effects, including area deprivation are included (Model 3) they have little impact on life satisfaction, though there tends to be a slight reduction in the negative coefficients on life satisfaction, indicating that not only are minorities more likely to be concentrated in deprived areas but that this has a small impact on their life satisfaction. (Inspection of Table A3A shows that the Townsend deprivation measure has a small significant negative effect on life satisfaction.) However, as with individual characteristics there remain clear deficits in the life satisfaction of minority groups relative to the majority, even with this comprehensive set of individual and contextual control variables.

Turning to the second and third panels of Table 3, once we separate by generation we find that the UK born ethnic minorities are even less happy compared to the White majority than

[14] We find that these results are consistent with those found in other studies: area level deprivation, unemployment, marital separation, number of children in the household, poor health, living in an urban area are all likely to result in reporting of lower life satisfaction scores while higher education, income and wealth, religious belonging, being retired, being in a partnership are all likely to increase life satisfaction scores.

the first generation (hypothesis 1c). This is consistent with UK born ethnic minorities having similar expectations about their life outcomes as their White majority counterparts but being disappointed by a reality which fails to match up to their expectations, and having a keener perception of being discriminated against than the first generation. However, the Black Caribbeans in the second generation are not, contra to discussions of Black British alienation, the least happy, nor do they show any decrease in their life satisfaction from the first to the second generation.

The somewhat more positive results for the first generation are consistent with immigrants being a selected group and with the immigrant generation using those in the source country as their reference group. Thus, they may not be as dissatisfied with their lives as those comparing their experience with their majority counterparts in the second generation, but nevertheless experience the negative impacts on well-being of migration and dislocation. Consistent with this interpretation, those who have been settled in the UK for a shorter period are relatively less unhappy than those who have been settled for more than 10 years (see Appendices, Table A3B). Immigrants may, therefore, be changing their reference group to White UK and also, over time, may realise that their expectations informing their move to the UK may not be fulfilled.

Interestingly, the groups who show the lowest rates of satisfaction among the second generation, once controlling for individual and area characteristics, are Indians and Bangladeshis. These are associated with being among the more and the less advantaged of the UKs minority groups, as well as being from somewhat earlier and later migration trajectories (Platt 2007b). Thus, the consistently lower satisfaction of the various ethnic minority groups relative to the white British majority would seem to transcend straightforward distinctions of different social location, or origin – or, indeed religious and cultural origins. Given this, does, the evidence suggest that there is, nevertheless some mitigating effect of ethnic group concentration at least for the more marginalised or more concentrated groups?

Table 3
Multivariate regressions of life satisfaction on ethnicity. Ethnicity related coefficients from OLS regressions.

		Ethnic group (comparison group: White UK)									
		Other White	*Mixed*	*Indian*	*Pakistani*	*Bangladeshi*	*Caribbean*	*African*	*Other*	**N**	**R2**
All											
Model 1	Coeff.	-0.04	-0.24**	-0.18**	-0.32**	-0.47**	-0.49**	-0.17**	-0.30**	32,054	0.004
	S.E.	*0.05*	*0.06*	*0.05*	*0.07*	*0.11*	*0.07*	*0.06*	*0.06*		
Model 2[1]	Coeff.	-0.19**	-0.20**	-0.35**	-0.38**	-0.50**	-0.34**	-0.21**	-0.40**	32,053	0.089
	S.E.	*0.06*	*0.07*	*0.06*	*0.08*	*0.11*	*0.07*	*0.08*	*0.07*		
Model 3[1,2]	Coeff.	-0.18**	-0.19**	-0.31**	-0.32**	-0.44**	-0.30**	-0.17*	-0.38**	32,053	0.091
	S.E.	*0.06*	*0.07*	*0.06*	*0.08*	*0.12*	*0.07*	*0.08*	*0.07*		
First generation											
Model 1	Coeff.	0.01	-0.09	-0.08	-0.40**	-0.48**	-0.42**	-0.15*	-0.30**	32,025	0.002
	S.E.	*0.05*	*0.1*	*0.06*	*0.09*	*0.12*	*0.11*	*0.07*	*0.06*		
Model 2[1]	Coeff.	-0.11*	-0.13	-0.21**	-0.41**	-0.43**	-0.30**	-0.14+	-0.37**	32,024	0.088
	S.E.	*0.05*	*0.1*	*0.07*	*0.1*	*0.12*	*0.1*	*0.07*	*0.07*		
Model 3[1,2]	Coeff.	-0.10+	-0.12	-0.17*	-0.34**	-0.36**	-0.26*	-0.10	-0.35**	32,024	0.09
	S.E.	*0.05*	*0.1*	*0.07*	*0.1*	*0.12*	*0.1*	*0.08*	*0.07*		
UK born											
Model 1	Coeff.	-0.33**	-0.32**	-0.38**	-0.21*	-0.44*	-0.56**	-0.31*	-0.32**	31,737	0.003
	S.E.	*0.12*	*0.08*	*0.08*	*0.1*	*0.19*	*0.08*	*0.15*	*0.12*		
Model 2[1]	Coeff.	-0.21+	-0.20*	-0.47**	-0.27**	-0.52**	-0.32**	-0.23	-0.23*	31,736	0.091
	S.E.	*0.11*	*0.08*	*0.08*	*0.1*	*0.18*	*0.08*	*0.15*	*0.12*		
Model 3[1,2]	Coeff.	-0.20+	-0.18*	-0.43**	-0.20*	-0.46*	-0.27**	-0.18	-0.22+	31,736	0.093
	S.E.	*0.12*	*0.08*	*0.08*	*0.1*	*0.18*	*0.08*	*0.15*	*0.12*		

Source: Understanding Society, Wave 1, 2009/10, linked with Census 2001 and 2011.
Notes: + p<0.10, * p<0.05, ** p<.01. All analyses are adjusted for sample design and non-response. England only. (1) Model also includes the following person-level indicators: sex, age, age squared, educational qualifications, marital status, number of children, economic activity status, household income, housing tenure, longstanding illness and health status, whether have a religious affiliation, length of stay in UK, urban-rural indicator. (2) Model also includes the following neighbourhood-level indicators: 11 Mosaic groups and Townsend Area Deprivation Score.

Table 4
Multivariate regressions of life satisfaction on ethnicity. Coefficients from OLS regressions.

	All		First Generation		UK born	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Ethnicity (comparison group: White UK)						
Other White	-0.16*	0.08	-0.11	0.08	-0.11	0.17
Mixed	-0.15*	0.07	-0.08	0.1	-0.14+	0.08
Indian	-0.32**	0.08	-0.10	0.11	-0.60**	0.12
Pakistani	-0.30*	0.13	0.05	0.18	-0.62**	0.18
Bangladeshi	-0.47*	0.22	-0.44+	0.25	-0.45	0.32
Caribbean	-0.31**	0.11	-0.36*	0.17	-0.22	0.14
Black African	-0.32**	0.12	-0.24*	0.12	-0.32	0.28
Other	-0.36**	0.07	-0.32**	0.07	-0.19+	0.12
Proportion Chinese	1.67	1.10	1.43	1.17	2.00	1.32
Proportion Other White						
Main effect	-0.86+	0.44	-0.98*	0.48	-0.95+	0.53
Interacted with Other White/Irish	0.21	0.59	0.40	0.63	-0.48	1.39
Proportion South Asian (Indian, Pakistani, Bangladeshi)						
Main effect	-0.15	0.24	-0.14	0.26	-0.19	0.30
Interacted with Indian	0.16	0.24	-0.16	0.28	0.72+	0.37
Interacted with Pakistani	0.05	0.38	-0.94+	0.49	1.07**	0.41
Interacted with Bangladeshi	0.19	0.46	0.29	0.55	0.09	0.65
Proportion Black (Caribbean, Black African)						
Main effect	-0.51	0.42	-0.56	0.48	-0.52	0.48
Interacted with Black Caribbean	0.59	0.55	1.20	0.89	0.24	0.67
Interacted with Black African	1.36*	0.57	1.35*	0.62	1.26	1.32
Herfindahl Index	0.02	0.18	0.00	0.20	-0.01	0.21
Constant	6.44**	0.20	6.44**	0.21	6.47**	0.23
Number of observations	32,053		32,024		31,736	
R^2	0.09		0.091		0.094	

Source: Understanding Society, Wave 1, 2009/10, linked with neighbourhood indicators.
Notes: + p<0.10, * p<0.05, ** p<.01. All analyses are adjusted for sample design and non-response. England only. (1) Model also includes the following indicators: sex, age, age squared, educational qualifications, marital status, number of children, economic activity status, household income, housing tenure, longstanding illness and health status, whether have a religious affiliation, length of stay in UK, urban-rural indicator, 11 Mosaic groups and Townsend Area Deprivation Score. For complete set of results, see Appendices, Table A4.

Table 4 shows the results relating to the second set of hypotheses and the role of ethnic group concentration on life satisfaction net of all other characteristics. It provides only those coefficients from the full model that relate to ethnic group and area ethnic group composition. Full sets of results are provided in the Appendices, Table A4. Note that the main effects for area concentration are largely driven by the effect of the group concentration on the

satisfaction of the White UK majority, while own group effects are revealed in the interactions.

As Table 4 illustrates, we do not find strong support for our second main hypothesis on the positive effect of own group concentration for the minority groups as a whole. We can see that the main ethnic group coefficients in the top part of the table do not differ substantially from those found in Model 3 in the top panel of Table 3, except for Black Africans, where the negative effect increases for the group overall (as well as across generations). This is because for this group alone there is a compensating factor of higher levels of life satisfaction when they live in neighbourhoods with a higher proportion of their own ethnic group members. For the other groups, as indicated by the lack of change in the ethnic group coefficients and the non-significant interactions as a whole, the impact of neighbourhood has a generally positive but statistically non-significant effect on life satisfaction.

However, the story becomes somewhat more complex when we consider differences in generations. The coefficients for Pakistani first and second generation also change substantially when own group concentration is controlled, with the first generation effect becoming marginally positive and insignificantly different from White UK life satisfaction levels, and the second generation becoming distinctly less happy. This stems from the fact that contrary to our hypothesis 2b, it is UK born Pakistanis and also Indians who are living in areas with higher proportion South Asians who report higher levels of life satisfaction, while their first generation counterparts report lower levels of life satisfaction. Thus, for these groups there is a protective effect of own group concentration – but only for the second generation. The first generation, by contrast, would appear to be negatively impacted by own group concentration, and hence to be happier when in more dispersed areas.

Despite the strong positive effects of own group concentration that have been argued for immigrants (Phillips 1998), this either is not conducive to their life satisfaction and evaluation of their circumstances, or, alternatively may be a rather short-lived effect. This would be consistent with findings by Musterd et al. (2008) for economic effects of concentration. For those with somewhat longer time horizons than initial arrivals, the immigrant generation may interpret areas with higher proportion of co-ethnics as cultural enclaves from which they expected to move out soon after they arrived but instead, since that expectation has not been realised, they have lower levels of life satisfaction. This explanation remains, however, somewhat speculative.

In the second generation, those who are more sensitive to awareness of discrimination may find the presence of their own group members provide them with psychological protection. Moreover, the second generation is likely to have somewhat more control over where they live and those who live in more concentrated areas, may have made more of a positive decision to do so, especially if it involved breaking the link between deprived neighbourhoods and ethnically concentrated neighbourhoods (Dorsett 1998).

Last but not least, we do not find that ethnic diversity has any effect on life satisfaction overall (hypothesis 2a). In line with other UK studies (Letki 2008), any negative impact of 'diversity' is likely to be picked up by other area compositional factors, rather than being driven by diversity *per se*.

Sensitivity analysis and robustness checks

As noted we have carried out a series of three robustness checks, relating to the sample restrictions. Table 5 reports the ethnic group and area concentration coefficients from the full model (Model 4) of life satisfaction, which included all individual and neighbourhood level controls. It shows, however, the results when the sample is refined to test for the influence of particular sample selection issues on the findings.

In the first robustness test, we checked that the results for life satisfaction were not confounded by issues of translation and understanding, only including those who responded to the survey in English. This excluded a very small proportion of the sample but the exclusions were overwhelmingly from the Bangladeshi group. We find that the results are unaffected by this restriction.

Second, we restricted our sample to only those living in metropolitan areas, to check that the small numbers of ethnic minorities living in less densely populated urban and rural areas were not influencing our findings. Again, the results did not change much though the smaller sample sizes resulted in some loss of power for a few coefficients. However, the clear positive effect of own group concentration for the Black African group, the negative effect of own group concentration for first generation Pakistanis and the positive effect for second generation Indians and Pakistanis are still clearly identified. Thus, potential distortions resulting from small numbers of minorities living in rural areas can be discounted.

Table 5
Robustness Tests: Results from Estimating a Model of Life Satisfaction Using Ordinary Least Squares (Model 4). Coefficients reported for ethnicity related factors only. Full set of controls as per Model 4.

	Excluding translated questionnaires			Only large metropolitan areas			Only those who reported they would like to move		
	All	First Generation	UK born	All	First Generation	UK born	All	First Generation	UK born
Other White, Irish	-0.16*	-0.11	-0.11	-0.05	0.07	-0.25	-0.15	-0.02	-0.25
Mixed	-0.15*	-0.08	-0.14+	-0.12	-0.13	-0.07	0.01	0.13	0.01
Indian	-0.34**	-0.12	-0.60**	-0.37**	-0.13	-0.58**	-0.41**	-0.18	-0.62**
Pakistani	-0.31*	0.06	-0.63**	-0.32+	0.15	-0.66**	-0.35*	0.13	-0.80**
Bangladeshi	-0.49*	-0.41+	-0.51	-0.59*	-0.29	-0.93*	-0.42+	-0.56+	-0.2
Caribbean	-0.31**	-0.36*	-0.22	-0.29+	-0.28	-0.25	-0.33*	-0.40+	-0.19
Black African	-0.32**	-0.24*	-0.32	-0.28*	-0.23	-0.01	-0.25	-0.07	-0.74
Other	-0.35**	-0.31**	-0.19+	-0.35**	-0.26**	-0.30*	-0.25**	-0.13	-0.28+
Proportion Chinese	1.75	1.49	2.02	2.38+	2.16	4.03*	1.09	0.46	1.64
Proportion Other White	-0.83+	-0.96*	-0.94+	-0.05	-0.56	-0.4	-0.96+	-1.14*	-1.06
Interacted with Other White/Irish	0.21	0.41	-0.48	-0.47	-0.46	-0.17	-0.06	0.02	-0.13
Proportion Indian, Pakistani, Bangladeshi	-0.12	-0.1	-0.18	-0.06	0.08	0.14	-0.26	-0.3	-0.26
Interacted with Indian	0.21	-0.08	0.71+	0.38	-0.05	0.95*	0.45	0.17	0.98+
Interacted with Pakistani	0.05	-1.04*	1.12**	0.14	-1.13+	1.18*	-0.02	-1.32*	1.45**
Interacted with Bangladeshi	0.2	0.22	0.19	0.67	0.09	1.26	0.13	0.65	-0.26
Proportion Black Caribbean, Black African	-0.48	-0.53	-0.52	-0.13	-0.27	0.07	-0.14	-0.14	-0.11
Interacted with Black Caribbean	0.59	1.19	0.25	0.35	0.85	0.17	-0.01	0.62	-0.41
Interacted with Black African	1.37*	1.36*	1.27	1.17+	1.32+	0.09	0.63	0.27	3.18
Herfindahl Index in LSOA	0.05	0.02	-0.01	0.39	0.38	0.49+	0.08	0.03	0.07
Constant	6.40**	6.45**	6.40**	5.08**	5.13**	5.09**	6.40**	6.45**	6.40**
Number of observations	19,060	18,968	18,614	13,853	13,803	13,390	19,060	18,968	18,614

+ p<0.10, * p<0.05, ** p<.01

Third, we evaluated potential selection issues by restricting our sample to only those who expressed a desire to move. The effects of own group concentration for Indians and Pakistanis remained the same, but the positive effect of own group concentration experienced by Black Africans dissipated. The direction of the effects remains the same but the coefficients are smaller no longer statistically significant. While some of this difference may stem from loss of statistical power – more than 50 per cent of some minority groups express a desire to move (see Table 2) - it does suggest that there is a selection process at work for Black Africans. That is, that those who live in areas with a higher concentration of their own group have positively selected into those areas and are thus inclined to be happier.

6. Conclusions and discussion

In this paper, we set out to expand our understanding of the role of neighbourhood effects by evaluating their consequences for life satisfaction in England. Specifically, we aimed to identify if own group concentration has a protective effect for minorities in terms of their own subjective evaluation of how well their lives are going. We premised our analysis on the expectation that life satisfaction would be lower across minority groups compared to majority groups for a number of reasons, including the disruption and dislocation presented by migration for the first generation and the persistence of discrimination and disadvantage in the second generation.

Our results demonstrate that life satisfaction is lower among minorities than the majority and that it tends to be particularly low among the UK born, once individual characteristics are controlled. In addition, we found some evidence for neighbourhood effects. While neighbourhood deprivation has a small but significant impact on life satisfactions, greater own group concentration, controlling for area type, is linked to relatively higher levels of well-being among Black Africans and among UK born Indians and Pakistanis. By contrast, and in opposition to our hypotheses, for first generation Pakistanis greater levels of own group concentration are linked to relatively lower levels of life satisfaction, suggesting that co-location is rather a constraint than a preference for this group, and that those who have the ability to move to areas of lesser concentration exploit that opportunity.

We subjected our findings to a range of robustness checks. These included testing for selection as well as a number of additional sample restrictions. By and large, our results are consistent across these specifications, though testing for selection did indicate that the

positive effect for Black Africans of relatively higher own group concentrations could be interpreted as a selection effect.

Like much of the literature on neighbourhood effects, the scale of our findings relating to the impact of neighbourhood composition is modest. Yet we feel that the evaluation in relation to subjective well-being provides a potentially more direct test of posited positive 'enclave' effects than other more structural outcomes. Given the wide range of individual characteristics and additional contextual variables that we were able to mobilise in our analysis, and that have been linked in the happiness literature to well-being, it is perhaps surprising that we identified such ethnic composition effects at all, particularly given how robust they were to our sensitivity tests. We would argue that we have developed some clear lines for future research in the possibly counterintuitive contrast between the positive concentration effects in the second generation South Asian groups and the more negative or neutral influences on well-being for the first generation. Rather than suggesting that concentration is linked to alienation, as much of the debate on segregation implies (Community Cohesion Review Team 2001), it indicates that proximity of own group members may provide cultural, social or emotional resources that are linked to higher levels of well-being in a challenging world.

References

Akay, Alpaslan, Amelie F. Constant, and Corrado Giulietti. 2012. "The Impact of Immigration on the Well-Being of Natives." *IZA Discussion Paper* 6630.

Argyle, Michael. 2001. *The psychology of happiness*. Hove: Routledge.

Bartram, David. 2013. "Happiness and 'economic migration': A comparison of Eastern European migrants and stayers." *Migration Studies* 1(2):156-75.

Becares, L., J. Nazroo, and May Stafford. 2009. "The buffering effects of ethnic density on experienced racism and health." *Health & Place* 15(3):670-78.

Bécares, Laia, James Nazroo, and Mai Stafford. 2009. "The buffering effects of ethnic density on experienced racism and health." *Health & Place* 15(3):670-78.

Becares, Laia, Mai Stafford, J. Laurence, and James Nazroo. 2011. "Composition, concentration and deprivation: Exploring their association with social cohesion among different ethnic groups in the UK." *Urban Studies* 48(13).

Bell, David, and David G. Blanchflower. 2007. "The Scots may be brave but they are neither healthy nor happy." *Scottish Journal of Political Economy* 54(2):166-94.

Berry, John W. 1997. "Immigration, Acculturation, and Adaptation." *Applied Psychology* 46(1):5-34.

Blackaby, D.H., Ken Clark, D.G. Leslie, and P.D. Murphy. 1994. "Black-white male earnings and employment prospects in the 1970s and 1980s: evidence for Britain." *Economics Letters* 46:273-79.

Blanchflower, David G., and Andrew J. Oswald. 2004. "Well-being over time in Britain and the USA." *Journal of Public Economics* 88:1359-86.

—. 2008. "Is well-being U-shaped over the life cycle?" *Social Science & Medicine* 66(8):1733-49.

Bolt, Gideon, A. Sule Özüekren, and Deborah Phillips. 2009. "Linking Integration and Residential Segregation." *Journal of Ethnic and Migration Studies* 36(2):169-86.

Bolt, Gideon, and Ronald van Kempen. 2009. "Ethnic Segregation and Residential Mobility: Relocations of Minority Ethnic Groups in the Netherlands." *Journal of Ethnic and Migration Studies* 36(2):333-54.

Brief, Arthur P., Ann Housten Butcher, Jennifer M. George, and Karen E. Link. 1993. "Integrating bottom-up and top-down theories of subjective well-being: The case of health." *Journal of Personality and Social Psychology* 64(4):646-53.

Bruni, Luigino, and Pier Luigi Porta. 2007. *Handbook on the economic of happiness*. Cheltenham, UK: Edward Elgar Publishing Limited.

Cheung, Sin Yi. 2014. "Ethno-religious minorities and labour market integration: generational advancement or decline?" *Ethnic and Racial Studies* 1:140-60.

Cheung, Sin Yi, and Anthony F. Heath. 2007. "Nice work if you can get it: ethnic penalties in Great Britain." in *Unequal Chances: Ethnic Minorities in Western Labour Markets*, edited by Anthony F. Heath and Sin Yi Cheung. Oxford: Oxford University Press.

Clark, Andrew E., Niels Westergård-Nielsen, and Nicolai Kristensen. 2009. "Economic satisfaction and income rank in small neighbourhoods." *Journal of the European Economic Association* 7(2-3):519-27.

Clark, Ken, and Stephen Drinkwater. 2002. "Enclaves, neighbourhood effects and economic outcomes: Ethnic minorities in England and Wales." *Journal of Population Economics* 15:5-29.

Community Cohesion Review Team. 2001. *Community Cohesion: A Report of the Independent Review Team Chaired by Ted Cantle*. London: Home Office.

Dickens, Richard, and Abigail McKnight. 2008. *Assimilation of Migrants into the British Labour Market*. CEP Occasional Paper 22. London: CEP, LSE.

Diener, Ed, and Micaela Y. Chan. 2011. "Happy People Live Longer: Subjective Well-Being Contributes to Health and Longevity." *Applied Psychology: Health and Well-Being* 3(1):1-43.
Diener, Ed, E. M. Suh, Richard E. Lucas, and H. L. Smith. 1999. "Subjective well-being: Three decades of progress." *Psychological Bulletin* 125:276-302.
Dietz, Robert D. 2002. "The estimation of neighborhood effects in the social sciences: An interdisciplinary approach." *Social Science Research* 31(4):539-75.
Dolan, Paul, Tessa Peasgood, and Mathew White. 2008. "Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being." *Journal of Economic Psychology* 29:94-121.
Dorsett, Richard. 1998. *Ethnic minorities in the inner cities*. Bristol: Policy Press.
Drever, Anita I. 2004. "Separate Spaces, Separate Outcomes? Neighbourhood Impacts on Minorities in Germany." *Urban Studies* 41(8):1423-39.
Durlauf, Steven N. 2003. "Neighbourhood effects." in *Handbook of Regional and Urban Economics*, edited by J. Vernon Henderson and Jacques-Francois Thisse: North-Holland.
Easterlin, Richard. 1974. "Does Economic Growth Improve the Human Lot? Some Empirical Evidence." Pp. 89-125 in *National and Households in Economic Growth: Essays in Honour of Moses Abramovitz*, edited by P. David and M. Reder. New York and London: Academic Press.
Eisenberger, Naomi I. , Matthew D. Lieberman, and Kipling D. Williams. 2003. "Does Rejection Hurt? An fMRI Study of Social Exclusion." *Science* 302.
Evans, M.D.R., and Jonathan Kelley. 2002. "Family and community influences on life satisfaction." in *Report to the Department of Family and Community Services*. Melbourne: Melbourne Institute.
Experian Limited. 2003. "Mosaic UK Group and Type Descriptions." *http://www.alcohollearningcentre.org.uk/_library/projects/files/Mosaic_UK_Group_and_Type_Descriptions_175.pdf* Date accessed: 06.02.2014.
—. 2009. "Experian's Mosaic Public Sector citizen classification for the United Kingdom." *http://www.esds.ac.uk/doc/5738/mrdoc/pdf/5738_mosaicpublicsector_info_2010.pdf* Date accessed: 06.02.2014.
Ferrer-i-Carbonell, Ada, and Paul Frijters. 2004. "How important is methodology for the estimates of the determinants of happiness?" *Economic Journal* 114:641-59.
Fieldhouse, Edward, and David Cutts. 2008. "Mobilisation or Marginalisation? Neighbourhood Effects on Muslim Electoral Registration in Britain in 2001." *Political Studies* 56(2):333-54.
Finney, Nissa, and Ludi Simpson. 2008. "Internal migration and ethnic groups: evidence for Britain from the 2001 Census." *Population, Space and Place* 14(2):63-83.
Frijters, Paul, John P. Haisken-DeNew, and Michael A. Shields. 2004. "Money does matter! Evidence from increasing real income and life satisfaction in East Germany after re-unification." *American Economic Review* 94(3):730-40.
Galster, George C. 2008. "Quantifying the Effect of Neighbourhood on Individuals: Challenges, Alternative Approaches, and Promising Directions." *Schmollers Jahrbuch* 128:1-42.
Galster, George C., and Sean P. Killen. 1995. "The geography of metropolitan opportunity: A renaissance and conceptual framework." *Housing Policy Debate* 6(1):7-43.
Graham, Carol, and Andrew Felton. 2005. "Does inequality matter to individual welfare? An initial exploration based on happiness in surveys from Latin America." *CSED Working Paper* (38):41.

Graham, Carol, and Julie Markowitz. 2011. "Aspirations and Happiness of Potential Latin American Immigrants." *Journal of Social Research & Policy* 2(2):9-26.

Heath, Anthony, and Neli Demireva. 2014. "Has multiculturalism failed in Britain?" *Ethnic and Racial Studies* 37(1):161-80.

Heath, Anthony F., and Sin Yi Cheung (Eds.). 2007. *Unequal Chances: Ethnic minorities in western labour markets*. Oxford: Oxford University Press.

Heath, Anthony F., and J. Roberts. 2008. "British Identity: Its sources and possible implications for civic attitudes and behaviour." in *Lord Goldsmith's Citizenship Review*.

Jencks, Christopher, and Susan E. Mayer. 1990. "The social consequences of growing up in a poor neighborhood." Pp. 111-87 in *Inner-city poverty in the United States*, edited by Lawrence E. Lynn and Michael G. H. McGeary. Washington, DC: National Academy Press.

Kahneman, Daniel, and Alan B. Krueger. 2006. "Developments in the Measurement of Subjective Well-Being." *Journal of Economic Perspectives* 20(1):3-24.

Karlsen, S., and James Nazroo. 2002. "Relation between racial discrimination, social class, and health among ethnic minority groups." *American Journal of Public Health* 92(4):624-31.

Knies, Gundi. 2012. "Income comparisons among neighbours and satisfaction in East and West Germany." *Social Indicators Research* 106(3):471-89.

Knies, Gundi, Simon Burgess, and Carol Propper. 2008. "Keeping up with the Schmidts: An empirical test of relative deprivation theory in the neighbourhood context." *Journal of Applied Social Sciences Studies* 1(2008).

Koczan, Zsoka 2012. "Does integration increase life satisfaction?" in *paper presented at the EDGE Jamboree 2012*. University of Munich.

Laurence, James. 2011. "The Effect of Ethnic Diversity and Community Disadvantage on Social Cohesion: A Multi-Level Analysis of Social Capital and Interethnic Relations in UK Communities." *European Sociological Review* 27(1):70-89.

Letki, Natalia. 2008. "Does diversity erode social cohesion? Social capital and race in British neighbourhoods." *Political Studies* 56(1):99-126.

Lim, Chaeyoon, and Robert D. Putnam. 2010. "Religion, Social Networks, and Life Satisfaction." *American Sociological Review* 75(6):914-33.

Longhi, Simonetta, Cheti Nicoletti, and Lucinda Platt. 2012. "Explained and unexplained wage gaps across the main ethno-religious groups in Great Britain." *Oxford Economic Papers*.

Longhi, Simonetta, and Lucinda Platt. 2008. "Pay Gaps across Equalities Areas." in *Research Report* Manchester: Equalities and Human Rights Commission.

Longley, P. A., and Richard J. Harris. 1999. "Towards a new digital data infrastructure for urban analysis and modelling." *Environment and Planning B: Planning and Design* 26(6):855 - 78.

Luttmer, Erzo F. P. 2005. "Neighbours as negatives: Relative earnings and well-being." *Quarterly Journal of Economics* 120(3):963-1002.

Michalos, Alex C., and Bruno D. Zumbo. 2001. "Ethnicity, Modern Prejudice and the Quality of Life." *Social Indicators Research* 53(2):189-222.

Modood, Tariq, Richard Berthoud, Jane Lakey, James Nazroo, Patten Smith, Satnam Virdee, and Sharon Beishon. 1997. *Ethnic Minorities in Britain: Diversity and Disadvantage - Fourth National Survey of Ethnic Minorities* London: PSI.

Musterd, Sako. 2005. "Social and Ethnic Segregation in Europe: Levels, Causes, and Effects." *Journal of Urban Affairs* 27(3):331-48.

Musterd, Sako, Roger Andersson, George C. Galster, and Timo Kauppinen. 2008. "Are immigrants' earnings influenced by the characteristics of their neighbours?" *Environment and Planning A* 40(4):785-805.

Muttarak, Raya. 2014. "Generation, ethnic and religious diversity in friendship choice: exploring interethnic close ties in Britain." *Ethnic and Racial Studies* 37(1):71-98.

Noble, Michael, Gemma Wright, George Smith, and Chris Dibben. 2006. "Measuring multiple deprivation at the small-area level." *Environment and Planning A* 38(1):169-85.

Office for National Statistics. 2012. "Measuring what matters."

Oishi, Shigehiro. 2002. "Experiencing and remembering of well-being: A cross-cultural analysis." *Personality and Social Psychology Bulletin* 28:1398-406.

Parameshwaran, Meenakshi. 2014. "Explaining intergenerational variation in English language acquisition and ethnic language attrition." *Ethnic and Racial Studies* 1:27-45.

Peach, Ceri. 2006. "Islam, ethnicity and South Asian religions in the London 2001 census." *Transactions of the Institute of British Geographers* 31(3):353-70.

Phillips, Deborah. 1998. "Black Minority Ethnic Concentration, Segregation and Dispersal in Britain." *Urban Studies* 35(10):1681-702.

Platt, Lucinda. 2005. "New Destinations? Assessing the post-migration social mobility of minority ethnic groups in England and Wales." *Social Policy & Administration* 39(6):697-721.

—. 2007a. "Making education count: the effects of ethnicity and qualifications on intergenerational social class mobility." *The Sociological Review* 55(3):485-508.

—. 2007b. *Poverty and ethnicity in the UK*. Bristol: Joseph Rowntree Foundation.

—. 2013. "How might we expect minorities' feelings of ethnic, religious and British identity to change, especially among the second and third generation? Driver Review 15 of Government Office of Science Foresight project on The Future of Identity in the UK." London: Government Office of Science.

—. 2014. "Is there assimilation in minority groups' national, ethnic and religious identity?" *Ethnic and Racial Studies* 37(1):46-70.

Portes, Alejandro, and Jozsef Borocz. 1989. "Contemporary Immigration: Theoretical Perspectives on Its Determinants and Modes of Incorporation." *International Migration Review* 23(3):606-30.

Putnam, Robert D. 2007. "E Pluribus Unum: Diversity and Community in the Twenty-first Century The 2006 Johan Skytte Prize Lecture." *Scandinavian Political Studies* 30(2):137-74.

Rumbaut, Rubén G. 2008. "Reaping what you sow: Immigration, youth, and reactive ethnicity." *Applied Developmental Science* 12(2):108-11.

Sampson, Robert J., Jeffrey D. Morenoff, and Thomas Gannon-Rowley. 2002. "Assessing "neighborhood effects": Social processes and new directions in research." *Annual Review of Sociology* 28:443-78.

Sanders, David, Stephen D. Fisher, Anthony Heath, and Maria Sobolewska. 2014. "The democratic engagement of Britain's ethnic minorities." *Ethnic and Racial Studies* 37(1):120-39.

Schulz, Amy, David Williams, Barbara Israel, Adam Becker, Edith Parker, Sherman A. James, and James Jackson. 2000. "Unfair Treatment, Neighborhood Effects, and Mental Health in the Detroit Metropolitan Area." *Journal of Health and Social Behavior* 41(3):314-32.

Shapiro, Adam, and CoreyLeeM Keyes. 2008. "Marital Status and Social Well-Being: Are the Married Always Better Off?" *Social Indicators Research* 88(2):329-46.

Shields, Michael A., and Allan Wailoo. 2002. "Exploring The Determinants Of Unhappiness For Ethnic Minority Men In Britain." *Scottish Journal of Political Economy* 49(4):445-66.

Shields, Michael, and Mark Wooden. 2003. "Investigating the Role of Neighbourhood Characteristics in Determining Life Satisfaction." *Melbourne Institute Working Paper Series* 24(Melbourne Institute of Applied Economic and Social Research):The University of Melbourne.

Simpson, Ludi, K. Purdam, A. Tajar, J. Pritchard, and Danny Dorling. 2009. "Jobs deficits, neighbourhood effects and ethnic penalties - explaining labour market inequalities of ethnic minorities." *Environment and Planning A* 41(2):946-63.

Sirgy, M. Joseph, and Terri Cornwell. 2002. "How Neighborhood Features Affect Quality of Life." *Social Indicators Research* 59(1):79-114.

Stiglitz, Joseph E. , Amartya Sen, and Jean-Paul Fitoussi. 2009. "Report by the Commission on the Measurement of Economic Performance and Social ProgressCommission on the Measurement of Economic Performance and Social Progress, ." Paris: General Assembly of the United Nations.

Townsend, P., P. Phillimore, and A. Beattie. 1988. *Health and Deprivation: Inequality and the North*. London: Routledge.

van der Laan Bouma-Doff, Wenda. 2007. "Involuntary isolation: ethnic preferences and residential segregation." *Journal of Urban Affairs* 29(3):289-309.

van Praag, Bernhard M. S., Paul Frijters, and Ada Ferrer-i-Carbonell. 2003. "The anatomy of subjective well-being." *Journal of Economic Behavior & Organization* 51(1):29-49.

Verkuyten, Maykel. 2008. "Life Satisfaction Among Ethnic Minorities: The Role of Discrimination and Group Identification." *Social Indicators Research* 89(3):391-404.

Vervoort, Miranda, Henk Flap, and Jaco Dagevos. 2010. "The Ethnic Composition of the Neighbourhood and Ethnic Minorities' Social Contacts: Three Unresolved Issues." *European Sociological Review*.

Waldinger, Roger David, and Michael Ira Lichter. 2003. *How the other half works: Immigration and the social organization of labor*. Berkeley, California: University of California Press.

WMPHO. 2008. "2001 LSOA Townsend scores from unadjusted Census data England." Public Health England.

Appendices

Table A1

Look-up between ethnic group as reported in the the survey and ethnic groups as considered in this study

Ethnic group as recorded in the interview	Categorisation used in this study
What is your ethnic group? CODE ONE ONLY	
White	
British/English/Scottish/Welsh/ Northern Irish	White UK
Irish	Other White
Gypsy or Irish Traveller	Other
Other	Other White
Mixed	
White and Black Caribbean	Mixed
White and Black African	Mixed
White and Asian	Mixed
White and Black African	Mixed
Asian or Asian British	
Indian	Indian
Pakistani	Pakistani
Bangladeshi	Bangladeshi
Chinese	Other
Any other Asian background	Other
Black/ African/ Caribbean/ Black British	
Caribbean	Caribbean
African	African
Any other Black background	Other
Other	
Arab	Other
Any other ethnic group	Other

Figure A1
Correlation between the Index of Multiple Deprivation (IMD) for England 2010 and the Townsend Score 2001 across Lower Super Output Areas (LSOA) in England

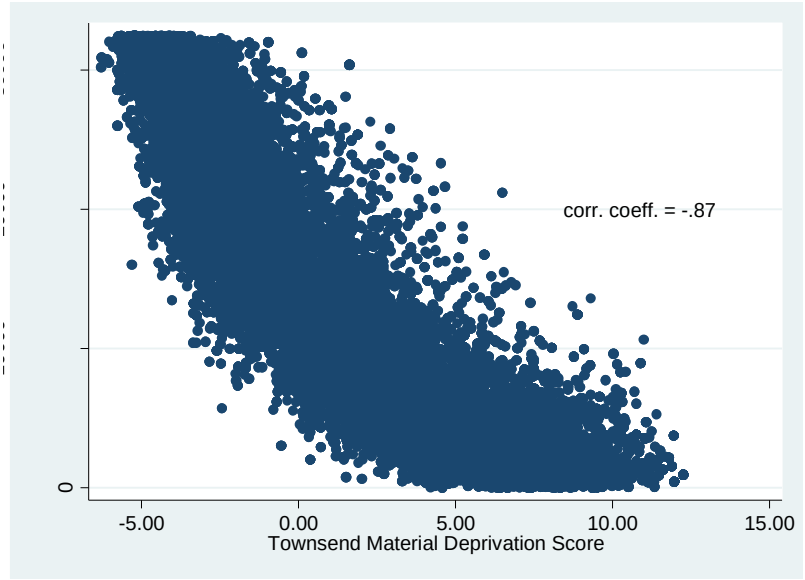

Figure A2
Headline description of MOSAIC groups A-K

Groups	Group label	Main characteristics of people in this group
Group A	Symbols of success	Career professionals living in sought after locations
Group B	Happy families	Younger families living in newer homes
Group C	Suburban comfort	Older families living in suburbia
Group D	Ties of community	Close-knit, inner city and manufacturing town communities
Group E	Urban intelligence	Educated, young, single people living in areas of transient populations
Group F	Welfare borderline	People living in social housing with uncertain employment in deprived
Group G	Municipal dependency	Low income families living in estate based social housing
Group H	Blue collar enterprise	Upwardly mobile families living in homes bought from social landlords
Group I	Twilight subsistence	Older people living in social housing with high care needs
Group J	Grey perspectives	Independent older people with relatively active lifestyles
Group K	Rural isolation	People living in rural areas far from urbanisation

Source: Adapted from overview provided by the UK government's Audit Commission, see http://www.audit-commission.gov.uk/nationalstudies/communitysafety/neighbourhoodcrime/Pages/profilingmosaic.aspx.
Date consulted: 23.11.2012

Table A2
Sample description – Mean[1] characteristics of individuals and their neighbourhoods by ethnic group and generation

	White UK	Other White		Mixed		Indian		Pakistani		Bangladeshi		Black Caribbean		Black African	
	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born
Female	0.56	0.61	0.52	0.59	0.62	0.45	0.56	0.47	0.56	0.45	0.59	0.60	0.67	0.56	0.58
Age Group															
16-24 years	0.12	0.12	0.12	0.16	0.37	0.12	0.38	0.12	0.45	0.16	0.66	0.07	0.20	0.17	0.44
25-29 years	0.07	0.16	0.08	0.08	0.14	0.11	0.11	0.14	0.20	0.16	0.14	0.06	0.10	0.13	0.12
30-44 years	0.25	0.39	0.36	0.36	0.31	0.36	0.47	0.41	0.34	0.52	0.16	0.16	0.44	0.46	0.36
45-59 years	0.26	0.17	0.32	0.25	0.15	0.27	0.04	0.25	0.01	0.13	0.03	0.38	0.26	0.19	0.08
60+ years	0.30	0.15	0.13	0.15	0.02	0.14	0.00	0.08	0.00	0.03	0.02	0.33	0.00	0.05	0.00
Highest Educational Qualifications															
Degree	0.19	0.42	0.44	0.32	0.26	0.47	0.35	0.32	0.23	0.24	0.21	0.16	0.23	0.35	0.35
Other higher	0.11	0.14	0.08	0.11	0.13	0.11	0.11	0.06	0.09	0.04	0.07	0.13	0.16	0.17	0.13
A-level or equivalent	0.19	0.14	0.18	0.25	0.25	0.11	0.28	0.13	0.28	0.18	0.36	0.18	0.22	0.19	0.31
GCSE or equivalent	0.23	0.07	0.15	0.14	0.27	0.11	0.21	0.16	0.31	0.21	0.29	0.20	0.27	0.14	0.21
Other or no qualifications	0.27	0.23	0.15	0.18	0.10	0.19	0.06	0.33	0.09	0.33	0.07	0.34	0.12	0.16	0.00
Current activity status															
In paid employment	0.48	0.53	0.52	0.47	0.44	0.52	0.53	0.33	0.34	0.37	0.40	0.40	0.54	0.48	0.43
Self-employed	0.07	0.10	0.08	0.07	0.04	0.07	0.05	0.10	0.04	0.07	0.02	0.06	0.06	0.04	0.08
Retired	0.24	0.11	0.09	0.11	0.01	0.10	0.00	0.06	0.00	0.02	0.01	0.28	0.00	0.03	0.00
Unemployed	0.05	0.06	0.10	0.10	0.16	0.08	0.07	0.09	0.13	0.14	0.09	0.11	0.15	0.13	0.07
Other	0.16	0.19	0.21	0.24	0.34	0.22	0.35	0.41	0.49	0.41	0.48	0.16	0.25	0.32	0.42

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Table A2
(Continued)

	White UK	Other White		Mixed		Indian		Pakistani		Bangladeshi		Black Caribbean		Black African	
	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born
Partnership status															
Single or never married	0.20	0.24	0.27	0.27	0.60	0.17	0.50	0.16	0.47	0.18	0.70	0.28	0.60	0.35	0.65
Married or cohabiting	0.65	0.64	0.65	0.59	0.33	0.76	0.46	0.75	0.46	0.74	0.27	0.44	0.31	0.51	0.27
Separated or divorced	0.09	0.08	0.06	0.12	0.06	0.05	0.04	0.07	0.06	0.05	0.03	0.21	0.08	0.11	0.08
Widowed	0.06	0.05	0.02	0.02	0.00	0.03	0.00	0.02	0.01	0.02	0.00	0.08	0.01	0.02	0.01
No. of own kids in household[c]	0.46	0.51	0.46	0.55	0.54	0.64	0.73	1.26	0.99	1.49	0.43	0.38	0.70	1.02	0.70
Total monthly personal income in £1k[c]	1.57	1.79	2.19	1.59	1.39	1.55	1.56	1.14	0.96	1.14	0.90	1.38	1.60	1.35	1.50
Owner of a house or flat	0.72	0.43	0.64	0.45	0.46	0.60	0.81	0.63	0.75	0.33	0.51	0.51	0.48	0.20	0.37
Long standing illness or disability	0.39	0.24	0.41	0.28	0.26	0.23	0.15	0.28	0.16	0.25	0.14	0.39	0.27	0.16	0.12
Has a health problem	0.51	0.30	0.49	0.39	0.40	0.33	0.25	0.36	0.22	0.32	0.22	0.57	0.41	0.24	0.24
Belong to a religion	0.48	0.64	0.60	0.71	0.43	0.88	0.80	0.97	0.97	0.97	0.93	0.76	0.62	0.93	0.84
Arrived in the UK less than 10 years ago		0.56		0.45		0.45		0.36		0.35		0.17		0.59	
Lives in an urban area	0.77	0.88	0.87	0.96	0.97	0.98	0.98	1.00	1.00	1.00	0.98	0.99	1.00	0.99	0.99
No. years lived at current residence[c]	13.77	6.77	9.04	8.15	8.75	10.30	10.60	9.32	10.64	8.58	12.72	14.42	11.22	4.97	9.16
Prefer to move	0.38	0.43	0.54	0.53	0.55	0.34	0.43	0.39	0.41	0.47	0.38	0.53	0.58	0.54	0.49
Lives in a metropolitan area	0.24	0.48	0.52	0.60	0.68	0.67	0.67	0.71	0.76	0.89	0.86	0.80	0.81	0.78	0.88
Whether 2011 LSOA changed since 2001	0.03	0.05	0.03	0.05	0.04	0.05	0.04	0.04	0.04	0.05	0.05	0.04	0.04	0.07	0.07

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Table A2
(Continued)

	White UK	Other White		Mixed		Indian		Pakistani		Bangladeshi		Black Caribbean		Black African	
	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born	1st gen-era-tion	UK born
Proportion co-ethnic[c]	0.88	0.08	0.05	0.01	0.02	0.20	0.17	0.25	0.29	0.30	0.29	0.07	0.07	0.09	0.10
Proportion Other White[c]	0.04	0.10	0.09	0.10	0.10	0.08	0.07	0.08	0.07	0.09	0.08	0.12	0.12	0.11	0.12
Proportion South Asian[c]	0.04	0.09	0.08	0.16	0.15	0.35	0.32	0.42	0.45	0.45	0.44	0.21	0.19	0.17	0.13
Proportion Black Caribbean or African[c]	0.02	0.06	0.05	0.11	0.11	0.08	0.08	0.09	0.07	0.10	0.07	0.17	0.19	0.17	0.18
Proportion Chinese[c]	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
Herfindahl Index[c]	0.80	0.57	0.60	0.43	0.44	0.38	0.39	0.33	0.36	0.30	0.36	0.30	0.29	0.33	0.32
Townsend score[c]	-0.56	1.13	0.66	2.64	2.80	2.38	2.33	4.39	4.52	7.64	6.62	4.10	4.19	4.77	4.12
Proportion of households of type[c]															
Symbol of Success	0.10	0.11	0.13	0.07	0.08	0.07	0.06	0.02	0.02	0.01	0.02	0.03	0.04	0.03	0.03
Happy families	0.12	0.09	0.09	0.07	0.06	0.06	0.07	0.04	0.04	0.03	0.03	0.05	0.04	0.05	0.07
Suburban Comfort	0.18	0.12	0.15	0.13	0.11	0.26	0.26	0.12	0.12	0.05	0.09	0.14	0.14	0.08	0.10
Ties of community	0.17	0.16	0.14	0.24	0.21	0.30	0.29	0.51	0.54	0.38	0.38	0.28	0.28	0.24	0.25
Urban Intelligence	0.06	0.20	0.21	0.18	0.17	0.12	0.09	0.06	0.07	0.12	0.10	0.18	0.16	0.17	0.20
Welfare borderline	0.04	0.09	0.08	0.15	0.17	0.06	0.08	0.11	0.09	0.35	0.29	0.18	0.21	0.27	0.21
Municipal dependency	0.07	0.04	0.03	0.03	0.05	0.03	0.04	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.03
Blue collar enterprise	0.11	0.08	0.08	0.06	0.07	0.05	0.06	0.06	0.04	0.02	0.03	0.06	0.07	0.08	0.08
Twilight subsistence	0.03	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.01
Grey perspectives	0.08	0.07	0.05	0.04	0.05	0.03	0.02	0.02	0.01	0.01	0.01	0.02	0.01	0.02	0.01
Number of observations	24,611	1,077	190	222	435	867	438	487	381	380	221	360	414	782	130

1 Most characteristics are a dichotomy and may therefore be interpreted as proportion. Continuous variables are marked [c].
Note that these descriptives are not population weighted. Adjusted descriptives were provided in Table 2.

Table A3A
Full model results for summary Table 3. Results for the population living in England (All, N=32,053).

	Model 1		Model 2		Model 3	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Ethnicity (comparison group: White British)						
Other White	-0.04	0.05	-0.19**	0.06	-0.18**	0.06
Mixed	-0.24**	0.06	-0.20**	0.07	-0.19**	0.07
Indian	-0.18**	0.05	-0.35**	0.06	-0.31**	0.06
Pakistani	-0.32**	0.07	-0.38**	0.08	-0.32**	0.08
Bangladeshi	-0.47**	0.11	-0.50**	0.11	-0.44**	0.12
Caribbean	-0.49**	0.07	-0.34**	0.07	-0.30**	0.07
Black African	-0.17**	0.06	-0.21**	0.08	-0.17*	0.08
Other	-0.30**	0.06	-0.40**	0.07	-0.38**	0.07
Age			-0.04**	0.00	-0.04**	0.00
Age Squared			0.00**	0.00	0.00**	0.00
Female			0.11**	0.02	0.11**	0.02
No. children in the household			-0.06**	0.01	-0.05**	0.01
Marital status (Married or Cohabiting)						
Single never married			-0.27**	0.03	-0.26**	0.03
Separated/ Divorced			-0.40**	0.03	-0.39**	0.03
Widowed			-0.33**	0.05	-0.33**	0.05
Highest level of qualification (Degree)						
Other higher degree			-0.08**	0.03	-0.08**	0.03
A-levels			-0.05*	0.03	-0.04+	0.03
GCSE or comparable			-0.09**	0.03	-0.08**	0.03
Other qualification or None			-0.10**	0.03	-0.07*	0.03
Economic activity status (In paid employment)						
Self-employed			0.04	0.03	0.04	0.03
Retired			0.37**	0.04	0.37**	0.04
Unemployed			-0.38**	0.04	-0.36**	0.04
Other			-0.12**	0.03	-0.12**	0.03
Personal income			0.03**	0.01	0.03**	0.01
Lives in owner occupied flat/house			0.27**	0.02	0.24**	0.02
Has longstanding illness/disability			-0.47**	0.02	-0.47**	0.02
Has health problem			-0.11**	0.02	-0.10**	0.02
Has a religion			0.04*	0.02	0.04*	0.02
Lives in urban area			-0.07**	0.02	-0.02	0.03
Generation (UK Born)						
In UK 10+ years			0.07	0.05	0.07	0.05
In UK <10 years			0.31**	0.06	0.31**	0.06

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Table A3A
(continued)

	Model 1		Model 2		Model 3	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Townsend Index					-0.01*	0.01
Proportion of households classified as (Symbols of Success/Rural Isolation)						
Happy families					-0.05	0.06
Suburban Comfort					-0.07	0.06
Ties of community					-0.07	0.06
Urban Intelligence					-0.02	0.08
Welfare borderline					-0.04	0.12
Municipal dependency					-0.12	0.11
Blue collar enterprise					-0.14+	0.08
Twilight subsistence					0.15	0.16
Grey perspectives					0.04	0.07
Constant	5.30**	0.01	6.36**	0.08	6.37**	0.09
R^2	0.004		0.089		0.09	

+ p<0.10, * p<0.05, ** p<.01
Source: Understanding Society, Wave 1, 2009/10, linked with information at LSOA-level from national statistics

Table A3B
Full model results for summary Table 3. Results for the White UK population and First Generation ethnic minorities living in England (First Generation, N= 32,024).

	Model 1		Model 2		Model 3	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Ethnicity (comparison group: White British)						
Other White	0.01	0.05	-0.11*	0.05	-0.10+	0.05
Mixed	-0.09	0.1	-0.13	0.10	-0.12	0.10
Indian	-0.08	0.06	-0.21**	0.07	-0.17*	0.07
Pakistani	-0.40**	0.09	-0.41**	0.10	-0.34**	0.10
Bangladeshi	-0.48**	0.12	-0.43**	0.12	-0.36**	0.12
Caribbean	-0.42**	0.11	-0.30**	0.10	-0.26*	0.10
Black African	-0.15*	0.07	-0.14+	0.07	-0.10	0.08
Other	-0.30**	0.06	-0.37**	0.07	-0.35**	0.07
Age			-0.04**	0.00	-0.04**	0.00
Age Squared			0.00**	0.00	0.00**	0.00
Female			0.12**	0.02	0.11**	0.02
No. children in the household			-0.05**	0.01	-0.05**	0.01
Marital status (Married or Cohabiting)						
Single never married			-0.27**	0.03	-0.26**	0.03
Separated/ Divorced			-0.41**	0.03	-0.40**	0.03
Widowed			-0.33**	0.05	-0.33**	0.05
Highest level of qualification (Degree)						
Other higher degree			-0.09**	0.03	-0.09**	0.03
A-levels			-0.06*	0.03	-0.05+	0.03
GCSE or comparable			-0.09**	0.03	-0.08**	0.03
Other qualification or None			-0.10**	0.03	-0.07*	0.03
Economic activity status (In paid employment)						
Self-employed			0.04	0.03	0.03	0.03
Retired			0.36**	0.04	0.36**	0.04
Unemployed			-0.38**	0.04	-0.37**	0.04
Other			-0.13**	0.03	-0.13**	0.03
Personal income			0.03**	0.01	0.03**	0.01
Lives in owner occupied flat/house			0.27**	0.02	0.24**	0.02
Has longstanding illness/disability			-0.47**	0.02	-0.47**	0.02
Has health problem			-0.11**	0.02	-0.10**	0.02
Has a religion			0.04*	0.02	0.03+	0.02
Lives in urban area			-0.07**	0.02	-0.02	0.03
In UK <10 years			0.24**	0.05	0.24**	0.05

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Table A3B
(continued)

	Model 1		Model 2		Model 3	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Townsend Index					-0.02*	0.01
Proportion of households classified as (Symbols of Success/Rural Isolation)						
Happy families					-0.04	0.06
Suburban Comfort					-0.06	0.06
Ties of community					-0.06	0.07
Urban Intelligence					0.01	0.08
Welfare borderline					0.04	0.13
Municipal dependency					-0.09	0.11
Blue collar enterprise					-0.13	0.08
Twilight subsistence					0.13	0.16
Grey perspectives					0.05	0.07
Constant	5.30**	0.01	6.34**	0.09	6.34**	0.10
R^2	0.002		0.09		0.09	

+ p<0.10, * p<0.05, ** p<.01,
Source: Understanding Society, Wave 1, 2009/10, linked with information at LSOA-level from national statistics

Table A3C
Full model results for summary Table 3. Results for the White UK population and UK born ethnic minorities living in England (UK born, N=31,736).

	Model 1		Model 2		Model 3	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Ethnicity (comparison group: White British)						
Other White	-0.33**	0.12	-0.21+	0.11	-0.20+	0.12
Mixed	-0.32**	0.08	-0.20*	0.08	-0.18*	0.08
Indian	-0.38**	0.08	-0.47**	0.08	-0.43**	0.08
Pakistani	-0.21*	0.10	-0.27**	0.10	-0.20*	0.10
Bangladeshi	-0.44*	0.19	-0.52**	0.18	-0.46*	0.18
Caribbean	-0.56**	0.08	-0.32**	0.08	-0.27**	0.08
Black African	-0.31*	0.15	-0.23	0.15	-0.18	0.15
Other	-0.32**	0.12	-0.23*	0.12	-0.22+	0.12
Age			-0.05**	0.00	-0.04**	0.00
Age Squared			0.00**	0.00	0.00**	0.00
Female			0.11**	0.02	0.11**	0.02
No. children in the household			-0.06**	0.01	-0.06**	0.01
Marital status (Married or Cohabiting)						
Single never married			-0.29**	0.03	-0.28**	0.03
Separated/ Divorced			-0.40**	0.04	-0.40**	0.04
Widowed			-0.33**	0.05	-0.33**	0.05
Highest level of qualification (Degree)						
Other higher degree			-0.06+	0.03	-0.06+	0.03
A-levels			-0.04	0.03	-0.03	0.03
GCSE or comparable			-0.08**	0.03	-0.07*	0.03
Other qualification or None			-0.08*	0.03	-0.05+	0.03
Economic activity status (In paid employment)						
Self-employed			0.06+	0.03	0.06+	0.03
Retired			0.39**	0.04	0.38**	0.04
Unemployed			-0.38**	0.05	-0.36**	0.05
Other			-0.14**	0.03	-0.13**	0.03
Personal income			0.03**	0.01	0.03**	0.01
Lives in owner occupied flat/house			0.29**	0.02	0.25**	0.03
Has longstanding illness/disability			-0.47**	0.02	-0.47**	0.02
Has health problem			-0.10**	0.02	-0.10**	0.02
Has a religion			0.05*	0.02	0.05*	0.02
Lives in urban area			-0.07**	0.02	-0.02	0.03

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Table A3C
(continued)

	Model 1		Model 2		Model 3	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Townsend Index					-0.01+	0.01
Proportion of households classified as (Symbols of Success/Rural Isolation)						
Happy families					-0.02	0.06
Suburban Comfort					-0.05	0.06
Ties of community					-0.04	0.07
Urban Intelligence					0.00	0.09
Welfare borderline					-0.09	0.14
Municipal dependency					-0.10	0.12
Blue collar enterprise					-0.07	0.09
Twilight subsistence					0.16	0.16
Grey perspectives					0.07	0.07
Constant	5.30**	0.01	6.39**	0.09	6.39**	0.10
R^2	0.003		0.09		0.09	

+ p<0.10, * p<0.05, ** p<.01
Source: Understanding Society, Wave 1, 2009/10, linked with information at LSOA-level from national statistics

Table A4
Full model results for summary Table 4.

	All		First Generation		UK born	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Ethnicity (comparison group: White British)						
Other White	-0.16*	0.08	-0.11	0.08	-0.11	0.17
Mixed	-0.15*	0.07	-0.08	0.1	-0.14+	0.08
Indian	-0.32**	0.08	-0.1	0.11	-0.60**	0.12
Pakistani	-0.30*	0.13	0.05	0.18	-0.62**	0.18
Bangladeshi	-0.47*	0.22	-0.44+	0.25	-0.45	0.32
Caribbean	-0.31**	0.11	-0.36*	0.17	-0.22	0.14
Black African	-0.32**	0.12	-0.24*	0.12	-0.32	0.28
Other	-0.36**	0.07	-0.32**	0.07	-0.19+	0.12
Age	-0.04**	0.00	-0.04**	0.00	-0.04**	0.00
Age Squared	0.00**	0.00	0.00**	0.00	0.00**	0.00
Female	0.11**	0.02	0.11**	0.02	0.11**	0.02
No. children in the household	-0.05**	0.01	-0.05**	0.01	-0.06**	0.01
Marital status (Married or Cohabiting)						
Single never married	-0.26**	0.03	-0.26**	0.03	-0.28**	0.03
Separated/ Divorced	-0.40**	0.03	-0.40**	0.03	-0.40**	0.04
Widowed	-0.33**	0.05	-0.33**	0.05	-0.33**	0.05
Highest level of qualification (Degree)						
Other higher degree	-0.08**	0.03	-0.09**	0.03	-0.06*	0.03
A-levels	-0.05+	0.03	-0.05+	0.03	-0.04	0.03
GCSE or comparable	-0.08**	0.03	-0.08**	0.03	-0.07**	0.03
Other qualification or None	-0.08**	0.03	-0.08*	0.03	-0.06+	0.03
Economic activity status (In paid employment)						
Self-employed	0.04	0.03	0.04	0.03	0.06+	0.03
Retired	0.37**	0.04	0.36**	0.04	0.38**	0.04
Unemployed	-0.36**	0.04	-0.37**	0.04	-0.35**	0.05
Other	-0.12**	0.03	-0.14**	0.03	-0.14**	0.03
Personal income	0.03**	0.01	0.03**	0.01	0.03**	0.01
Lives in owner occupied flat/house	0.24**	0.02	0.24**	0.02	0.25**	0.03
Has longstanding illness/disability	-0.47**	0.02	-0.47**	0.02	-0.47**	0.02
Has health problem	-0.10**	0.02	-0.10**	0.02	-0.10**	0.02
Has a religion	0.04*	0.02	0.04+	0.02	0.05*	0.02
Lives in urban area	0.00	0.03	0.00	0.03	0.00	0.03
Generation (UK Born)						
In UK 10+ years	0.07	0.05				
In UK <10 years	0.31**	0.06				
In UK < 11 years			0.23**	0.05		

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Table A4
(continued)

	All		First Generation		UK born	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Townsend Index	0.00	0.01	0.00	0.01	0.00	0.01
Proportion of households classified as (Symbols of Success/Rural Isolation)						
Happy families	-0.08	0.06	-0.06	0.06	-0.04	0.06
Suburban Comfort	-0.08	0.06	-0.07	0.06	-0.06	0.06
Ties of community	-0.12+	0.07	-0.13+	0.07	-0.10	0.07
Urban Intelligence	-0.04	0.08	-0.02	0.09	0.01	0.09
Welfare borderline	-0.15	0.13	-0.11	0.14	-0.15	0.15
Municipal dependency	-0.35**	0.13	-0.34**	0.13	-0.30*	0.14
Blue collar enterprise	-0.25**	0.09	-0.26**	0.09	-0.17+	0.09
Twilight subsistence	0.00	0.16	-0.04	0.16	0.03	0.17
Grey perspectives	-0.03	0.07	-0.03	0.07	0.01	0.07
Proportion Chinese	1.67	1.10	1.43	1.17	2.00	1.32
Proportion Other White						
Main effect	-0.86+	0.44	-0.98*	0.48	-0.95+	0.53
Interacted with Other White/Irish	0.21	0.59	0.40	0.63	-0.48	1.39
Proportion Indian, Pakistani, Bangladeshi						
Main effect	-0.15	0.24	-0.14	0.26	-0.19	0.30
Interacted with Indian	0.16	0.24	-0.16	0.28	0.72+	0.37
Interacted with Pakistani	0.05	0.38	-0.94+	0.49	1.07**	0.41
Interacted with Bangladeshi	0.19	0.46	0.29	0.55	0.09	0.65
Proportion Black Caribbean, Black African						
Main effect	-0.51	0.42	-0.56	0.48	-0.52	0.48
Interacted with Black Caribbean	0.59	0.55	1.20	0.89	0.24	0.67
Interacted with Black African	1.36*	0.57	1.35*	0.62	1.26	1.32
Herfindahl Index	0.02	0.18	0.00	0.20	-0.01	0.21
Constant	6.44**	0.20	6.44**	0.21	6.47**	0.23
Number of observations	32,053		32,024		31,736	
R^2	0.09		0.091		0.094	

+ p<0.10, * p<0.05, ** p<.01
Source: Understanding Society, Wave 1, 2009/10, linked with information at LSOA-level from national statistics

Table A5
Results from Estimating a Model of Life Satisfaction Using Ordinary Least Squares, separately for each ethnic group without any neighbourhood characteristics

	White UK	Other White	Mixed	Indian	Pakistani	Bangladeshi	Caribbean	Black African
Age	-0.04**	-0.03	-0.11**	-0.04	-0.05	0.02	-0.05	-0.07**
Age Squared	0.00**	0	0.00**	0	0	0	0	0.00*
Female	0.11**	0.16	-0.05	0.16	0.17	0.14	-0.17	-0.19
No. children in the household	-0.05**	0.07	-0.16+	-0.16*	-0.07	-0.08	-0.09	0
Marital status (Married or Cohabiting)								
Single never married	-0.29**	-0.11	-0.42*	-0.21	-0.04	-0.49	-0.34+	-0.05
Separated/ Divorced	-0.41**	-0.34	-0.82**	-0.28	-0.2	-0.83+	-0.3	-0.29
Widowed	-0.33**	-0.33	0.48	-1.1	0.37	-0.17	-0.45	0.36
Highest level of qualification (Degree)								
Other higher degree	-0.07*	-0.17	-0.26	0.05	-0.04	-0.24	-0.13	-0.22
A-levels	-0.04	-0.15	-0.06	-0.12	-0.01	0.37+	-0.23	0
GCSE or comparable	-0.08**	-0.12	-0.29	-0.12	-0.23	0.06	-0.04	0.09
Other qualification or None	-0.08*	-0.16	-0.43	0.03	-0.37	0.43	0.01	0.07
Economic activity status (in paid employment)								
Self-employed	0.06+	-0.08	0.07	0.2	0.29	0.09	-0.14	-0.02
Retired	0.38**	0.28	0.19	0.11	0.12	1.53*	0	0.39
Unemployed	-0.38**	-0.39	-0.66*	0.08	-0.17	-0.06	-0.43+	-0.64**
Other	-0.16**	0.03	0.19	0.03	-0.15	0.13	-0.09	-0.04

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Table A5
(continued)

	White UK	Other White	Mixed	Indian	Pakistani	Bangladeshi	Caribbean	Black African
Personal income	0.03**	0.02	0.05	0.05*	0.06+	0.17**	0.04	0.05
Lives in owner occupied flat/house	0.28**	0.21	0.31*	0.25+	0.25	-0.26	0.17	0.01
Has longstanding illness/disability	-0.47**	-0.38*	-0.25	-0.73**	-0.58**	-0.84**	-0.52**	-0.55+
Has health problem	-0.10**	-0.13	0.04	0.03	-0.08	0.01	-0.33+	-0.34+
Has a religion	0.05*	-0.11	0.14	0.29	0.72	0.43+	-0.12	0.09
Lives in urban area	-0.06**	-0.13	-0.13	-0.17	-1.07**	-1.42**	0.24	-0.13
Generation (UK Born)								
In UK 10+ years		0.06	0.06	0.08	0.04	-0.06	-0.06	0.27
In UK <10 years		0.41*	0.18	0.60**	0.15	0.08	0.2	0.25
Constant	6.38**	5.72**	7.42**	5.55**	6.34**	5.97**	6.18**	6.72**
Number of observations	24,263	1,173	657	1,305	868	601	773	912
R^2	0.09	0.079	0.172	0.105	0.087	0.122	0.099	0.096

+ p<0.10, * p<0.05, ** p<.01
Source: Understanding Society, Wave 1, 2009/10, linked with information at LSOA-level from national statistics.