

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

Gundi Knies<sup>1</sup>, Alita Nandi<sup>2</sup>, Lucinda Platt<sup>3</sup>

## **Abstract**

There is considerable debate about the advantages and disadvantages of minority ethnic group concentration. While some regard it as a process of group separation (Battu, et al. 2007), or damaging for local trust (Putnam 2007), others highlight the potentially protective influences in areas such as health or experience of discrimination (Becares, et al. 2009). However, to our knowledge, no studies have so far evaluated the extent to which different levels of own or other group concentration impact on subjective well-being itself. Exploiting the opportunities offered by an exceptional source of data we therefore bring together three research strands, those on ethnic segregation, neighbourhood effects and wellbeing to explore for the first time in the UK the mediating effect of neighbourhood context on life satisfaction of ethnic minority groups.

Using a unique dataset for the UK linked with a range of neighbourhood characteristics from a number of different sources, the research looks at variation in life satisfaction of ethnic groups living in Great Britain, and examines the extent to which neighbourhood ethnic composition is related to life satisfaction. Since other characteristics of the neighbourhood may be correlated with ethnic composition (i.e., economic and socio-cultural aspects such as neighbourhood deprivation, neighbourhood income and consumption and life-style profiles) the paper also considers the role of these factors. Taken together this allows us to answer the question whether the ethnic composition of the neighbourhood plays a part in positively or negatively impacting people's experienced utility, and whether there is variation across ethnic groups.

---

<sup>1</sup> Gundi Knies, Senior Research Officer, the Institute for Social and Economic Research, University of Essex.

<sup>2</sup> Corresponding Author: Alita Nandi, Research Fellow, the Institute for Social and Economic Research, University of Essex, Wivenhoe Park, Colchester, CO4 3SQ. Email: anandi@essex.ac.uk

<sup>3</sup> Lucinda Platt, Professor of Sociology, the Institute of Education and Director of the Millennium Cohort Study.

This work is part of the project "Migrant Diversity and Regional Disparity in Europe" (NORFACE-496, MIDIREN) funded by NORFACE; financial support from NORFACE research programme on Migration in Europe - Social, Economic, Cultural and Policy Dynamics is acknowledged."

## **Background**

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. Life satisfaction is “a reflective appraisal, a judgment, of how well things are going, and have been going” (Argyle 2001). Economists also view life satisfaction as a marker of people’s experienced utility (e.g., van Praag, et al. 2003). The life satisfaction research suggests that people consider seven key aspects of their life when reporting their life satisfaction: their family-living context, health, financial situation, work-life, community and friends, personal values and personal freedom (Layard 2005). People who report that they are satisfied with their life have been shown, for instance, to be more successful in their social and economic lives, they tend to have more fulfilling relationships, high incomes, and more community involvement than their less satisfied peers, and they will live longer healthier lives (Diener and Chan 2011). Life satisfaction is therefore significantly implicated in a range of positive outcomes and therefore merits sustained attention for better understanding ethnic inequalities.

There are a number of reasons to expect that ethnic minorities 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 2007a). Many ethnic minority groups and groups of immigrants face higher risks of unemployment (Platt 2007a), earn less (Longhi and Platt 2008), and live in more deprived areas than their majority ethnic counterparts (Simpson, et al. 2009), although there is great variation across groups. Nevertheless, more successful groups can still face obstacles to social mobility or advancement (Longhi, et al. 2012; Platt 2007b). In addition, the challenges of acculturation associated with migration (Berry 1997) can create dissonance in the experience of minority ethnic groups and impact their well-being. On the other hand, immigrants are typically positively selected. 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 forthcoming; Heath and Roberts 2008), alongside continuing employment and economic disadvantage (Cheung and Heath 2007).

Given the variations in both life chances and settlement patterns across ethnic groups, we argue that the association between life satisfaction and ethnicity will depend on (a) which ethnic group one is a member of, and (b) where one lives (i.e., their neighbourhood context).

### ***Ethnicity and life satisfaction***

Research investigating how ethnic minorities and immigrants subjectively evaluate their life is as yet scant.<sup>4</sup> European research on the basis of general population studies does not typically consider ethnicity or migration status as an important determinant of life satisfaction. A small number of studies have focused on the variation in life satisfaction of ethnic minorities compared to the majority ethnic group. 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, happier than their White British counterparts. 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, et al. 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.

### ***Neighbourhood context and life satisfaction***

The way in which local contexts influence individual-level outcomes has received increasing attention in the last two decades from social researchers. Social theories suggest that people are affected by their neighbourhood context in a number of ways, for instance, through interaction with others of the same age ('peers'), through observing and learning from older individuals ('role models'), through confrontation with a differential built environment, and through the availability and use of local institutions and opportunities (for extensive reviews of this body of research, see, e.g., Dietz 2002; Durlauf 2003; Galster and Killen 1995; Jencks and Mayer 1990; Sampson, et al. 2002). Among the many objective outcomes that have been shown in the empirical literature to be affected by the local circumstances are schooling (e.g., Aaronson 1998; Crowder and South 2003; Harding 2003; Overman 2002; Sanbonmatsu, et al. 2006), socio-economic outcomes such as welfare receipt and (un)employment (e.g., Atkinson and Kintrea 2001; Brännström 2004; Buck 2001; Farwick 2001),

---

<sup>4</sup> There are some studies in related areas examining variation in mental health. E.g., Fagg et al (2006) look at the effect of neighbourhood socio-economic characteristics (such as levels of deprivation, crime, social fragmentation and ethnic composition) on the mental health (as measured by Strength and Difficulties Questionnaire) of adolescents living in London.

voting (e.g., Johnston, et al. 2000; MacAllister, et al. 2001), and health (e.g., Hoffmann, et al. 2003; Naess, et al. 2005; Öhlander, et al. 2006; Propper, et al. 2005; Robert 1999).

Studies focussing on the overall experienced utility derived from living in neighbourhoods of different composition are relatively rare by comparison. 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, et al. 2009; Graham and Felton 2005; Knies 2012; Knies, et al. 2008; Luttmer 2005).

### ***Ethnicity, neighbourhood ethnic composition and life satisfaction***

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.<sup>5</sup> 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. 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

---

<sup>5</sup> There is, however, a plethora of research devoted to testing whether living in more deprived or more ethnically segregated neighbourhoods affects the experience and engagement of minorities; Verwoort, Flap and Dagevos (2010) show that ethnic minorities' social contacts with co-ethnics are higher when the share of co-ethnics in the neighbourhood is higher; moreover, the greater the share of ethnic minorities or the greater ethnic diversity the less contact ethnic minorities have with the majority ethnic group. It is not clear from this, however, whether the overall experienced utility is affected by contact/non-contact. For Britain, Fieldhouse and Cutts (2007) looked at the influence of neighbourhood ethnic concentration on participation, specifically electoral registration; while Bécares and colleagues have explored the relationship between ethnic group concentration and a range of outcomes (Bécares et al, 2009), including social cohesion (Bécares et al, 2011).

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.

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, et al. 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.

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.

We address the following questions:

- 1) Are there differences in life satisfaction across the UK's ethnic groups, which persist once we control for relevant demographic and socio-economic factors?
- 2) To what extent can variations in life satisfaction be attributed to living in 'better' or 'worse' neighbourhoods?
- 3) Is there an additional (positive or negative) impact of ethnic composition of the neighbourhood once we control for other neighbourhood characteristics? And how can we understand such an effect?

To answer these questions, we estimate a series of models which regress life satisfaction on ethnic group and different neighbourhood characteristics, controlling for relevant individual and household level factors.

First of all we address the issue of whether ethnic minority concentration or ethnic diversity has a negative effect on the majority population over and above other characteristics of the area. Second we compare how neighbourhood concentration impacts variations in life satisfaction across ethnic

groups. And finally we explore for minority ethnic groups whether ethnic composition impacts their welfare.

## Data

The research draws on data from *Understanding Society*, the new UK Household Longitudinal Study (UKHLS). UKHLS is an annual longitudinal household panel survey, managed by the Institute for Social and Economic Research (ISER) at the University of Essex. The multi-focus multi-topic social survey started in 2009 with a nationally-representative stratified, clustered sample of around 30k households living in the United Kingdom.<sup>6</sup> Fieldwork takes place over a period of 24 months, with a random sample of households issued for interview each month. Within each household, all those aged 10 and above were eligible for interview, and individuals and all members of their households are followed annually. Currently, interviews are under way for the third and fourth waves of annual interviews, and data from the first wave have recently been made available to the scientific community.<sup>7</sup>

The research exploits two key design features of *Understanding Society*. First, the study oversamples members of minority ethnic groups (ensuring at least 1000 adults from five key ethnic minority groups: African, Bangladeshi, Caribbean, Indian and Pakistani). 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 these groups separately. With the large sample size and the ethnic minority boost sample of UKHLS, we are able to overcome this constraint. Second, observing 30k households which were sampled from more than 2.5k primary sampling units, the UKHLS provides information collected in a far greater number of places than any other study of its type. This allows us to investigate with greater statistical power how well-being co-varies with neighbourhood contexts.

Using the study respondent's home addresses, we link key Census statistics describing the ethnic and socio-economic composition of the neighbourhood as well as micromarketing indicators describing the median income and socio-cultural consumer profiles of the neighbours.

A further feature of *Understanding Society* is that it allows five minutes of extra interview time for additional questions of interest to ethnicity related research (such as harassment, ethnic identity, remittances). These are administered to the ethnic minority boost sample, an additional 500

---

<sup>6</sup> In total, the study follows the lives of 40k households in more than 3k sampling points across the UK. The Innovation Panel (1.5k households) and British Household Panel Survey (approximately 8k households) samples are excluded from this analysis.

<sup>7</sup> For further detail on the study design and data access consult [www.understandingsociety.org.uk](http://www.understandingsociety.org.uk).

households from the non-boost sample, and those adults from ethnic minorities in non-boost sample who live in areas with low concentrations of ethnic minorities.<sup>8</sup> By design the boost sample members are from high ethnic minority concentration areas and so allowing these questions to be asked of the low density ethnic minority persons allows us to include these questions in our analysis without losing variation across neighbourhood ethnic minority composition.

### ***Key variables***

*Understanding Society* includes a whole range of indicators that mark people's subjective well-being, and the study also provides information on the aspects of life that have been shown to impact on subjective well-being (Bruni and Porta 2007; Dolan, et al. 2008).

Our key outcome 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" (all response categories are labelled).

To absorb as much relevant individual heterogeneity in life satisfaction as is possible, in addition to markers of the family context (i.e., marital status, and number of own children in the household), financial situation (i.e., household income and tenure), work (i.e., employment status, qualifications), and health (i.e., whether respondent has a longstanding illness/disability, and whether diagnosed with a health problem), we include basic characteristics such as age, sex, and country of residence. These markers are provided in the main interview with responding adults. For exact question wording we refer the reader to the study questionnaires which are available on the study homepage, [www.understandingsociety.org.uk](http://www.understandingsociety.org.uk).

Our main interest lies in the contribution to life satisfaction of living in neighbourhoods of different ethnic composition. We consider the following markers which have been widely used in the related research on whether ethnic composition impacts objective outcomes, such as contacts with natives (see, e.g., Vervoort, et al. 2010):

- (a) the proportion ethnic minority (i.e., in the British context, the proportion not White British),
- (b) the proportion non-White (i.e., proportion not British, Irish or Other White),
- (c) the proportion co-ethnics (i.e., matching the respondent's self-classification on 16 ethnic group categories with that reported in the UK Census<sup>9</sup>), and
- (d) the Herfindahl-Hirschman Index ("Herfindahl Index").

---

<sup>8</sup> That is, those areas which were not sampled to create the ethnic minority boost sample.

<sup>9</sup> The UK census allows self-classification into 16 groups; 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.

These indicators are constructed on the basis of standard UK Census 2001 output tables which we linked to the UKHLS.<sup>10</sup> In the following discussion we concentrate on the third measure, which captures the proportion of co-ethnics at the neighbourhood level, though we have also carried out exploratory analysis using the alternative measures.

In addition to ethnic composition, a number of other aspects of the neighbourhood, which may or may not directly be correlated with the ethnic composition of the neighbourhood, are included in our analysis. The first one relates to the cultural milieu in the neighbourhood, namely (e) socio-cultural lifestyle profiles available through linkage to Experian's MOSAIC neighbourhood typology (Experian Limited 2009).

The MOSAIC typology draws on data from a number of different sources, including the UK census, consumer credit data, postal address files, council tax data, edited electoral rolls, add-hoc lifestyle and large scale social surveys.<sup>11</sup> The data are used 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.<sup>12</sup> The (estimated) number of households which fall into each type is aggregated to the spatial scale of Lower Super Output Areas (LSOA) and the neighbourhood typology made available free of charge to the scientific community.<sup>13</sup> Thus, for each LOSA 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. Table 1 provides a brief description of the groups; for a more detailed account see Experian (2003).

<Table 1 about here>

---

<sup>10</sup> All neighbourhood level indicators, including the MOSAIC data, have been linked to the survey responses using census output codes applicable to the survey respondent's home postcode. In particular we use so-called Lower Layer Super Output Area (LSOA) codes for England and Wales, and Data Zone codes for Scotland. There are 34,378 LSOAs in England and Wales (32,482 in England, 1896 in Wales) and their minimum population size is 1,000 (mean: 1.5k). With a mean population size of 808, the 6,505 Data Zones in Scotland are somewhat smaller than LSOAs. Note that many of the country's islands and the northern highlands are sparsely populated.

<sup>11</sup> Information on the precise procedures and information on which indicators are used are 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.

<sup>12</sup> <http://www.dataplanning.co.uk/pages/t4t-what-is-data-home.htm>

<sup>13</sup> Development of the MOSAIC classification was supported by the Economic



In terms of uses in academic research, we would like to think of these markers in terms of absorbing heterogeneity in neighbourhood contexts other than just ethnic composition, and not as predictors of happiness per se.

Last but not least, additional markers are used to tap into the role played by economic factors. In particular, we use (f) median neighbourhood income as a catch-all measure of neighbourhood quality available for the whole of UK.

The neighbourhood income estimate is also provided by the micro-marketing firm Experian. Experian has used data from a number of surveys, including MORI's Financial Tracking Survey to predict personal and household incomes. Incomes were first predicted for a number of occupational groups and household types, and these were then accumulated to create household income based on the composition of the household. Appropriate calibration has been used throughout the process to sources such as Census (for employment types at OA level) and the Expenditure and Food Survey. Just like Experian's MOSAIC groups the neighbourhood income estimate is widely used in the UKs academic and policy research.<sup>14</sup>

## Methods

The research uses multivariate statistical analysis methods appropriate for the study design. We adjust our estimates to take account of the clustering of individuals within areas (Moulton 1990). Analysis is conducted using the data analysis software Stata 12. We use the programme's svy suite of commands to assure that standard errors are corrected for the complex design of the survey we use, which involves clustered, stratified random sampling in Great Britain. All results are weighted using *Understanding Society* cross-sectional response weights.<sup>15</sup>

## Descriptive Statistics

We first describe the population distributions of our sample across our key measures (see Table 2).

< Table 2 about here >

Tables 3 and 4 compare the means across ethnic groups and indicate whether the minority group means are statistically significantly different from those of the White British majority.

< Tables 3 and 4 about here >

---

<sup>14</sup> The estimates were produced with substantial funding support from the UK's Economic and Social Research Council (ESRC).

<sup>15</sup> We employ the adult self-completion response weights provided in the UKHLS.

We can clearly see that there are significant differences in life satisfaction between most of the minority groups and the majority. All minorities other than White Irish and Other White groups have significantly lower average satisfaction than the White majority. We can also, see however, that they differ significantly on demographic and economic variables – though not always in the same direction, for example Indians are more likely to live in owner occupied housing and Black Africans are much less likely to do so. Thus the variations in satisfaction are likely to be closely related to differences in individual characteristics.

However, we can also note that there are distinctive differences in ethnic group concentration across groups, according to our four measures. At the same time there are also substantial differences in neighbourhood type. We posit that these neighbourhood factors relate to life satisfaction in different ways. It is therefore important to distinguish their impacts on life satisfaction. Moreover, the distributions clearly reveal the need to estimate in ways which account for the endogeneity of groups' neighbourhood and individual characteristics. For example, Bangladeshis and Pakistanis, are the two poorest ethnic groups, the most ethnically concentrated of the minority groups and the most heavily concentrated in deprived areas. Research which only takes account of some of these features of their experience, and which ignores the inter-relation between their deprivation and the deprivation of their neighbourhoods is thus likely to be misleading.

## **Results**

To address our first two questions of whether differences in life satisfaction across ethnic groups persist once we take account of individual level differences, and whether these can be accounted for in terms of differences in neighbourhood type across groups, we first estimated a model regressing life satisfaction on ethnic group controlling for the relevant individual level factors outlined above. This is illustrated in Table 5.

<Table 5 about here>

Interestingly we see, in Model 1, that significant ethnic group differences in life satisfaction can be observed, with each of the minority groups experiencing lower life satisfaction, even after controlling for relevant individual level factors. Once we control for neighbourhood type and deprivation level (Model 2), the results are almost unchanged. While a number of the area types are statistically significantly associated with life satisfaction, it is only for the African group that this appears to account in part for their lower life satisfaction. Even though the coefficient for 'Mixed' becomes non-significant at the 5% level, the coefficient only reduces by a small amount, and remains significant at the 10% level. For the other groups, life satisfaction is highly significantly lower than that of the

White British majority, even when taking account of the fact that distribution across types of area varies distinctively, with some groups highly concentrated in disadvantaged areas. We can see that there is a reduction in the coefficient for Bangladeshi individuals, that indicates that the quality of their neighbourhood plays some role, but does not substantially alter their lower self-evaluated wellbeing.

To explore whether neighbourhood ethnic group composition plays a role in life satisfaction over and above the economic and social composition of the area, we employed two approaches. Given the large numerical dominance of the White majority, any estimates of co-ethnic group effects would be driven by their experience. Moreover, the range of values for proportion of co-ethnics in neighbourhood show very different distributions between majority and minority, which would further complicate interpretation of findings. Thus we, first estimated a model, simply for the White British. This would illustrate whether, in line with some of the implications of the literature relating to trust and homogeneity, proportion of co-ethnics in the neighbourhood was positively associated with life satisfaction, and whether such a relationship was robust to the inclusion of area composition variables.

We then estimated similar models for the minority groups on their own, with the largest, Indian group as the reference group. This was unable to show us whether ethnic composition reduced the life satisfaction gap between White British and minorities, but as a first step towards answering that question, by interaction proportion co-ethnic with ethnic group we were able to ascertain if there was a positive impact of neighbourhood concentration of co-ethnics on life satisfaction, and whether there was an effect over and above neighbourhood type. The results of the White British analysis are illustrated in Table 6 and of the ethnic minority groups in Table 7.

<Tables 6 and 7 about here>

We can see that for the White British, proportion of co-ethnics is indeed positively associated with life satisfaction net of individual level factors. This effect persists when we control for area type, clearly indicating that White British feel ‘happier’ when they are in a more homogenous neighbourhood for every type and income level of neighbourhood. Conversely, and contrary to some claims in the literature, minority groups, with the exceptions of Africans, appear to experience no added benefit from the presence of co-ethnics, despite the expected additional community resources that this is expected to bring. For Black Africans, there does seem to be a benefit in terms of increased life satisfaction from living among co-ethnics. Given that Black Africans are more likely than other groups to be recent migrants and are heavily concentrated in London, it may be that there are specific benefits that accrue from access to co-ethnic networks and institutions in these circumstances.

## **Conclusions and next steps**

While there are distinctive differences in life satisfaction across ethnic groups that do not appear to derive from variations in individual circumstances and neighbourhood quality, it does not appear that these differences in life satisfaction can be attributed to neighbourhood composition. Thus the operation of mechanisms at the neighbourhood level that contribute to better or worse satisfaction are unlikely to yield an increase in our understanding of these wellbeing differences. Instead it may be that factors that operate, albeit in different ways, across areas and across socio-economic circumstances, such as experiences of discrimination, harassment or alienation may need to be interrogated further to understand ethnic differences in life satisfaction.

To interrogate our results further, however, we propose to test for different measures of ethnic composition as discussed above, and more formally to test for the contribution of co-ethnic composition to differences in life satisfaction. We also aim to outline a more detailed account of the mechanisms by which ethnic group differences in life satisfaction emerge and are sustained, in order to enable us to test for alternative factors that we outlined in the background section.

## References

- Aaronson, D.** 1998 'Using sibling data to estimate the impact of neighborhoods on children's educational outcomes', *Journal of Human Resources* 33(4): 915-946.
- Akay, A., Constant, A. F. and Giulietti, C.** 2012 'The Impact of Immigration on the Well-Being of Natives', *IZA Discussion Paper* 6630.
- Argyle, M.** 2001 *The psychology of happiness*, 2 Edition, Hove: Routledge.
- Atkinson, R. and Kintrea, K.** 2001 'Disentangling area effects: Evidence from deprived and non-deprived neighbourhoods', *Urban Studies* 38: 2277-2298.
- Battu, H., Mwale, M. and Zenou, Y.** 2007 'Oppositional identities and the labor market', *Journal of Population Economics* 20(3): 643-667.
- Becares, L., Nazroo, J. and Stafford, M.** 2009 'The buffering effects of ethnic density on experienced racism and health', *Health & Place* 15(3): 670-678.
- Becares, L., Stafford, M., Laurence, J. and Nazroo, J.** 2011 'Composition, concentration and deprivation: Exploring their association with social cohesion among different ethnic groups in the UK', *Urban Studies* 48(13).
- Berry, J. W.** 1997 'Immigration, Acculturation, and Adaptation', *Applied Psychology* 46(1): 5-34.
- Blanchflower, D. G. and Oswald, A. J.** 2004 'Well-being over time in Britain and the USA', *Journal of Public Economics* 88: 1359-1386.
- Brännström, L.** 2004 'Poor places, poor prospects? Counterfactual models of neighbourhood effects on social exclusion in Stockholm, Sweden', *Urban Studies* 41(13): 2515-2537.
- Bruni, L. and Porta, P. L.** 2007 *Handbook on the economic of happiness*, Cheltenham, UK: Edward Elgar Publishing Limited.
- Buck, N.** 2001 'Identifying neighbourhood effects on social exclusion', *Urban Studies* 38(12): 2251-2275.
- Cheung, S. Y. and Heath, A. F.** 2007 'Nice work if you can get it: ethnic penalties in Great Britain', in A. F. Heath and S. Y. Cheung (eds) *Unequal Chances: Ethnic Minorities in Western Labour Markets*, Oxford: Oxford University Press.
- Clark, A. E., Westergård-Nielsen, N. and Kristensen, N.** 2009 'ECONOMIC SATISFACTION AND INCOME RANK IN SMALL NEIGHBOURHOODS', *Journal of the European Economic Association* 7(2-3): 519-527.
- Crowder, K. D. and South, S. J.** 2003 'Neighbourhood distress and school dropout: the variable significance of community context', *Social Science Research* 32: 659-698.
- Diener, E. and Chan, M. Y.** 2011 'Happy People Live Longer: Subjective Well-Being Contributes to Health and Longevity', *Applied Psychology: Health and Well-Being* 3(1): 1-43.
- Dietz, R. D.** 2002 'The estimation of neighborhood effects in the social sciences: An interdisciplinary approach', *Social Science Research* 31(4): 539-575.
- Dolan, P., Peasgood, T. and White, M.** 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.
- Durlauf, S. N.** 2003 'Neighbourhood effects', in J. V. Henderson and J.-F. Thisse (eds) *Handbook of Regional and Urban Economics*, Vol. 4: North-Holland.
- Easterlin, R.** 1974 'Does Economic Growth Improve the Human Lot? Some Empirical Evidence', in P. David and M. Reder (eds) *National and Households in Economic Growth: Essays in Honour of Moses Abramovitz*, New York and London: Academic Press.
- Evans, M. D. R. and Kelley, J.** 2002 'Family and community influences on life satisfaction' *Report to the Department of Family and Community Services*, Melbourne: Melbourne Institute.
- Experian Limited** 2009 'Experian's Mosaic Public Sector citizen classification for the United Kingdom'.
- Fagg, J., Curtis, S., Stansfeld, S. and Congdon, P.** 2006 'Psychological distress among adolescents, and its relationship to individual, family and area characteristics in East London', *Social Science and Medicine* 63: 636-648.
- Farwick, A.** 2001 *Segregierte Armut in der Stadt - Ursachen und Folgen der räumlichen Konzentration von Sozialhilfeempfängern*, Opladen: Leske + Budrich.

- Fieldhouse, E. and Cutts, D.** 2007 'Mobilisation or Marginalisation? Neighbourhood Effects on Muslim Electoral Registration in 2001', *Political Studies* 56: 333-354.
- Galster, G., Marcotte, D. E., Mandell, M., Wolman, H. and Augustine, N.** 2007 'The Influence of Neighborhood Poverty During Childhood on Fertility, Education, and Earnings Outcomes', *Housing Studies* 22(5): 723-751.
- Galster, G. C. and Killen, S. P.** 1995 'The geography of metropolitan opportunity: A renaissance and conceptual framework', *Housing Policy Debate* 6(1): 7-43.
- Graham, C. and Felton, A.** 2005 'Does inequality matter to individual welfare? An initial exploration based on happiness in surveys from Latin America', *CSED Working Paper*(38): 41.
- Harding, D. J.** 2003 'Counterfactual models of neighbourhood effects: The effect of neighborhood poverty on dropping out and teenage pregnancy', *American Journal of Sociology* 109(3): 676-719.
- Heath, A. F. and Demireva, N.** forthcoming 'Has multiculturalism utterly failed?', *Paper submitted for a special issue of Ethnic and Racial Studies on generational change.*
- Heath, A. F. and Roberts, J.** 2008 'British Identity: Its sources and possible implications for civic attitudes and behaviour' *Lord Goldsmith's Citizenship Review.*
- Hoffmann, B., Robra, B.-P. and Swart, E.** 2003 'Social Inequality and Noise Pollution by Traffic in the Living Environment- An analysis by the German Federal Health Survey (Bundesgesundheitsurvey)', *Das Gesundheitswesen* 65: 393-401.
- Jencks, C. and Mayer, S. E.** 1990 'The social consequences of growing up in a poor neighborhood', in L. E. Lynn and M. G. H. McGeary (eds) *Inner-city poverty in the United States*, Washington, DC: National Academy Press.
- Johnston, R. J., Pattie, C. J., Dorling, D. F. L., MacAllister, I., Tunstall, H. and Rossiter, D. J.** 2000 'Local context, retrospective economic evaluations and voting: the 1997 general election in England and Wales', *Political Behavior* 22(2): 121-143.
- Knies, G.** 2012 'Income comparisons among neighbours and satisfaction in East and West Germany', *Social Indicators Research* 106(3): 471-489.
- Knies, G., Burgess, S. and Propper, C.** 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, Z.** 2012 'Does integration increase life satisfaction?' *paper presented at the EDGE Jamboree 2012*, University of Munich.
- Layard, R.** 2005 *Happiness: Lessons from a New Science*, London: Penguin.
- Longhi, S., Nicoletti, C. and Platt, L.** 2012 'Explained and unexplained wage gaps across the main ethno-religious groups in Great Britain.', *Oxford Economic Papers.*
- Longhi, S. and Platt, L.** 2008 'Pay Gaps across Equalities Areas' *Research Report* Vol. 9, Manchester: Equalities and Human Rights Commission.
- Luttmer, E. F. P.** 2005 'Neighbours as negatives: Relative earnings and well-being', *Quarterly Journal of Economics* 120(3): 963-1002.
- MacAllister, I., Johnston, R. J., Pattie, C. J., Tunstall, H., Dorling, D. F. L. and Rossiter, D. J.** 2001 'Class dealignment and the neighbourhood effect: Miller revisited', *British Journal of Political Science* 31: 41-59.
- Michalos, A. C. and Zumbo, B. D.** 2001 'Ethnicity, Modern Prejudice and the Quality of Life', *Social Indicators Research* 53(2): 189-222.
- Modood, T., Berthoud, R., Lakey, J., Nazroo, J., Smith, P., Virdee, S. and Beishon, S.** 1997 *Ethnic Minorities in Britain: Diversity and Disadvantage - Fourth National Survey of Ethnic Minorities* London: PSI.
- Moulton, B. R.** 1990 'An Illustration of a Pitfall in Estimating the Effects of Aggregate Variables on Micro Unit.', *The Review of Economics and Statistics* 72(2): 334-338.
- Naess, O., Leyland, A. H., Davey Smith, G. and Claussen, B.** 2005 'Contextual effect on mortality of neighbourhood level education explained by earlier life deprivation', *Journal of Epidemiology and Community Health* 59: 1058-1059.
- Öhlander, E., Vikström, M., Lindström, M. and Sundquist, K.** 2006 'Neighbourhood non-employment and daily smoking: A population-based study of women and men in Sweden', *European Journal of Public Health* 16(1): 78-84.

- Overman, H. G.** 2002 'Neighbourhood effects in large and small neighbourhoods', *Urban Studies* 39(1): 117-130.
- Platt, L.** 2007a *Ethnicity and Poverty in the UK*, Bristol: The Policy Press.  
 — 2007b 'Making education count: the effects of ethnicity and qualifications on intergenerational social class mobility', *The Sociological Review* 55(3): 485-508.
- Propper, C., Jones, K., Bolster, A., Burgess, S., Johnston, R. and Sarker, R.** 2005 'Local neighbourhood and mental health: Evidence from the UK', *Social Science & Medicine* 61(10): 2065-2083.
- Putnam, R. D.** 2007 'E Pluribus Unum: Diversity and Community in the Twenty-First Century', *Scandinavian Political Studies* 30(2): 137-174.
- Robert, S. A.** 1999 'Socioeconomic position and health: The independent contribution of community socioeconomic context', *Annual Review of Sociology* 25: 489-516.
- Sampson, R. J., Morenoff, J. D. and Gannon-Rowley, T.** 2002 'Assessing "neighborhood effects": Social processes and new directions in research', *Annual Review of Sociology* 28: 443-478.
- Sanbonmatsu, L., Kling, J. R., Duncan, G. J. and Brooks-Gunn, J.** 2006 'Neighborhoods and Academic Achievement: Results from the Moving to Opportunity Experiment', *NBER Working Paper* 11909.
- Schulz, A., Williams, D., Israel, B., Becker, A., Parker, E., James, S. A. and Jackson, J.** 2000 'Unfair Treatment, Neighborhood Effects, and Mental Health in the Detroit Metropolitan Area', *Journal of Health and Social Behavior* 41(3): 314-332.
- Shields, M. and Wooden, M.** 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.
- Shields, M. A. and Wailoo, A.** 2002 'Exploring The Determinants Of Unhappiness For Ethnic Minority Men In Britain', *Scottish Journal of Political Economy* 49(4): 445-466.
- Simpson, L., Purdam, K., Tajar, A., Pritchard, J. and Dorling, D.** 2009 'Jobs deficits, neighbourhood effects and ethnic penalties - explaining labour market inequalities of ethnic minorities', *Environment and Planning A* 41(2): 946-963.
- Sirgy, M. J. and Cornwell, T.** 2002 'How Neighborhood Features Affect Quality of Life', *Social Indicators Research* 59(1): 79-114.
- van Praag, B. M. S., Frijters, P. and Ferrer-i-Carbonell, A.** 2003 'The anatomy of subjective well-being', *Journal of Economic Behavior & Organization* 51(1): 29-49.
- Verkuyten, M.** 2008 'Life Satisfaction Among Ethnic Minorities: The Role of Discrimination and Group Identification', *Social Indicators Research* 89(3): 391-404.
- Vervoort, M., Flap, H. and Dagevos, J.** 2010 'The Ethnic Composition of the Neighbourhood and Ethnic Minorities' Social Contacts: Three Unresolved Issues', *European Sociological Review*.

**Table 1: Headline description of MOSAIC groups A-K**

---

| <b>Group name</b> | <b>Group label</b>     | <b>Main characteristics of people in this group</b>                     |
|-------------------|------------------------|---|
| 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 2: Descriptive sample statistics.**

|                                       | <b>Mean</b> | <b>S.D.</b> | <b>Min</b> | <b>Max</b> | <b>N</b> |
|---------------------------------------|-------------|-------------|------------|------------|----------|
| Life satisfaction                     | 5.24        | 1.46        | 1          | 7          | 37901    |
| Female                                | 0.54        | 0.5         | 0          | 1          | 48906    |
| Age group                             |             |             |            |            |          |
| <i>Aged 16-24</i>                     | 0.14        | 0.35        | 0          | 1          | 48906    |
| <i>Aged 25-29</i>                     | 0.08        | 0.28        | 0          | 1          | 48906    |
| <i>Aged 30-44</i>                     | 0.28        | 0.45        | 0          | 1          | 48906    |
| <i>Aged 45-59</i>                     | 0.24        | 0.43        | 0          | 1          | 48906    |
| <i>Aged 60+</i>                       | 0.25        | 0.43        | 0          | 1          | 48906    |
| Marital status                        |             |             |            |            |          |
| <i>Single never married</i>           | 0.24        | 0.42        | 0          | 1          | 48891    |
| <i>Cohabiting</i>                     | 0.62        | 0.49        | 0          | 1          | 48891    |
| <i>Separated/Divorced</i>             | 0.08        | 0.28        | 0          | 1          | 48891    |
| <i>Widowed</i>                        | 0.06        | 0.23        | 0          | 1          | 48891    |
| Number of own children in the h/hold  | 0.53        | 0.96        | 0          | 10         | 48906    |
| Highest qualification                 |             |             |            |            |          |
| <i>Degree</i>                         | 0.22        | 0.41        | 0          | 1          | 48816    |
| <i>Other higher degree</i>            | 0.11        | 0.31        | 0          | 1          | 48816    |
| <i>A-levels</i>                       | 0.19        | 0.39        | 0          | 1          | 48816    |
| <i>GCSE or comparable</i>             | 0.21        | 0.41        | 0          | 1          | 48816    |
| <i>Other qualification/None</i>       | 0.28        | 0.45        | 0          | 1          | 48816    |
| Employment status                     |             |             |            |            |          |
| <i>Employed</i>                       | 0.46        | 0.5         | 0          | 1          | 48906    |
| <i>Self-employed</i>                  | 0.07        | 0.26        | 0          | 1          | 48906    |
| <i>Retired</i>                        | 0.2         | 0.4         | 0          | 1          | 48906    |
| <i>Unemployed</i>                     | 0.07        | 0.25        | 0          | 1          | 48906    |
| <i>Other</i>                          | 0.2         | 0.4         | 0          | 1          | 48906    |
| Net individual income (monthly, in £) | 1244        | 4758        | 0          | 402610     | 48837    |
| Lives in owner occupied flat/house    | 0.66        | 0.47        | 0          | 1          | 48752    |
| Has longstanding illness/disability   | 0.35        | 0.48        | 0          | 1          | 48785    |
| Has health problem                    | 0.47        | 0.5         | 0          | 1          | 45614    |
| Has a religion                        | 0.55        | 0.5         | 0          | 1          | 45681    |
| Number of years lived in the UK       | 0.81        | 0.39        | 0          | 1          | 48626    |
| Lived in UK for <11 years             | 0.08        | 0.27        | 0          | 1          | 48626    |
| Lived in UK for >10 years             | 0.11        | 0.31        | 0          | 1          | 48626    |
| Country of residence                  |             |             |            |            |          |
| <i>England</i>                        | 0.88        | 0.33        | 0          | 1          | 48906    |
| <i>Wales</i>                          | 0.05        | 0.22        | 0          | 1          | 48906    |
| <i>Scotland</i>                       | 0.07        | 0.26        | 0          | 1          | 48906    |
| Lives in urban area                   | 0.81        | 0.39        | 0          | 1          | 48906    |

Continues next page

**Table 2 continued**

|   | <b>Mean</b> | <b>S.D.</b> | <b>Min</b> | <b>Max</b> | <b>N</b> |
|---|-------------|-------------|------------|------------|----------|
| Neighbourhood ethnic composition  |             |             |            |            |          |
| Proportion not UK White   | 0.17        | 0.22        | 0          | 0.96       | 48906    |
| Proportion non-White  | 0.12        | 0.2         | 0          | 0.95       | 48906    |
| Proportion co-ethnics   | 0.72        | 0.37        | 0          | 1          | 45630    |
| Herfindahl Index  | 0.76        | 0.24        | 0.13       | 1          | 48906    |
| Neighbourhood type (proportion of h/holds in group)                     |             |             |            |            |          |
| <i>Group 1: Symbols of Success</i>                                      | 0.09        | 0.19        | 0          | 1          | 48906    |
| <i>Group 2: Happy families</i>  | 0.1         | 0.18        | 0          | 1          | 48906    |
| <i>Group 3: Suburban Comfort</i>  | 0.16        | 0.22        | 0          | 1          | 48906    |
| <i>Group 4: Ties of community</i>                                       | 0.19        | 0.26        | 0          | 1          | 48906    |
| <i>Group 5: Urban Intelligence</i>                                      | 0.08        | 0.2         | 0          | 1          | 48906    |
| <i>Group 6: Welfare borderline</i>                                      | 0.08        | 0.19        | 0          | 1          | 48906    |
| <i>Group 7: Municipal dependency</i>                                    | 0.06        | 0.16        | 0          | 1          | 48906    |
| <i>Group 8: Blue collar enterprise</i>                                  | 0.1         | 0.18        | 0          | 1          | 48906    |
| <i>Group 9: Twilight subsistence</i>                                    | 0.03        | 0.07        | 0          | 0.88       | 48906    |
| <i>Group 10: Grey perspectives</i>                                      | 0.07        | 0.14        | 0          | 1          | 48906    |
| <i>Group 11: Rural Isolation</i>  | 0.05        | 0.16        | 0          | 1          | 48906    |
| Median h/hold income in current n/hood<br>(annual, in £1k) Current year |             |             |            |            |          |
|   | 29.3        | 9.6         | 6.1        | 83.9       | 48906    |

Source: Understanding Society, Wave 1, 2009-2010. Linked at LSOA/Data zone level with Census 2001, Experian 2009 (drawing also on data for 2004 and 2008)/Experian 2010 (drawing also on data for 2005 and 2009).

**Table 3: Individual and neighbourhood characteristics of the population living in Great Britain, 2009-2010 by ethnic group. Predicted means.**

|                                       | UK White | Ethnic minority |      |
|---------------------------------------|----------|-----------------|------|
| Life satisfaction                     | 5.30     | 5.11            | ***  |
| Female                                | 0.51     | 0.49            | **   |
| Age group                             |          |                 |      |
| <i>Aged 16-24</i>                     | 0.14     | 0.21            | ***  |
| <i>Aged 25-29</i>                     | 0.07     | 0.15            | ***  |
| <i>Aged 30-44</i>                     | 0.24     | 0.37            | ***  |
| <i>Aged 45-59</i>                     | 0.25     | 0.18            | ***  |
| <i>Aged 60+</i>                       | 0.30     | 0.10            | ***  |
| Marital status                        |          |                 |      |
| Single never married                  | 0.22     | 0.34            | ***  |
| Cohabiting                            | 0.63     | 0.57            | ***  |
| Separated/Divorced                    | 0.08     | 0.06            | ***  |
| Widowed                               | 0.07     | 0.03            | ***  |
| Number of own children in the h/hold  | 0.43     | 0.63            | ***  |
| Highest qualification                 |          |                 |      |
| <i>Degree</i>                         | 0.19     | 0.37            | ***  |
| <i>Other higher degree</i>            | 0.11     | 0.12            | n.s. |
| <i>A-levels</i>                       | 0.20     | 0.18            | **   |
| <i>GCSE or comparable</i>             | 0.22     | 0.13            | ***  |
| <i>Other qualification/None</i>       | 0.28     | 0.19            | ***  |
| Employment status                     |          |                 |      |
| <i>Employed</i>                       | 0.47     | 0.48            | n.s. |
| <i>Self-employed</i>                  | 0.07     | 0.08            | *    |
| <i>Retired</i>                        | 0.25     | 0.07            | ***  |
| <i>Unemployed</i>                     | 0.06     | 0.09            | ***  |
| <i>Other</i>                          | 0.16     | 0.27            | ***  |
| Net individual income (monthly, in £) | 1368     | 1216            | ***  |
| Lives in owner occupied flat/house    | 0.72     | 0.49            | ***  |
| Has longstanding illness/disability   | 0.38     | 0.23            | ***  |
| Has health problem                    | 0.51     | 0.31            | ***  |
| Has a religion                        | 0.47     | 0.74            | ***  |
| Number of years lived in the UK       | 0.98     | 0.28            | ***  |
| Lived in UK for <11 years             | 0.00     | 0.38            | ***  |
| Lived in UK for > 10 years            | 0.02     | 0.33            | ***  |

Continues next page

**Table 3 continued**

|   | UK White | Ethnic Minority |      |
|---|----------|-----------------|------|
| Country of residence                                    |          |                 |      |
| <i>England</i>  | 0.85     | 0.94            | ***  |
| <i>Wales</i>  | 0.06     | 0.02            | ***  |
| <i>Scotland</i>   | 0.10     | 0.04            | ***  |
| Lives in urban area                                     | 0.77     | 0.94            | ***  |
| Neighbourhood ethnic composition                        |          |                 |      |
| Proportion not UK White                                 | 0.09     | 0.33            | ***  |
| Proportion non-White                                    | 0.05     | 0.25            | ***  |
| Proportion co-ethnics                                   | 0.91     | 0.08            | ***  |
| Herfindahl Index  | 0.85     | 0.56            | ***  |
| Neighbourhood type (proportion of h/holds in group)     |          |                 |      |
| <i>Group 1: Symbols of Success</i>                      | 0.10     | 0.08            | ***  |
| <i>Group 2: Happy families</i>                          | 0.11     | 0.07            | ***  |
| <i>Group 3: Suburban Comfort</i>                        | 0.16     | 0.15            | n.s. |
| <i>Group 4: Ties of community</i>                       | 0.16     | 0.23            | ***  |
| <i>Group 5: Urban Intelligence</i>                      | 0.06     | 0.17            | ***  |
| <i>Group 6: Welfare borderline</i>                      | 0.05     | 0.12            | ***  |
| <i>Group 7: Municipal dependency</i>                    | 0.07     | 0.04            | ***  |
| <i>Group 8: Blue collar enterprise</i>                  | 0.12     | 0.07            | ***  |
| <i>Group 9: Twilight subsistence</i>                    | 0.03     | 0.02            | ***  |
| <i>Group 10: Grey perspectives</i>                      | 0.08     | 0.04            | ***  |
| <i>Group 11: Rural Isolation</i>                        | 0.06     | 0.01            | ***  |
| Median h/hold income in current n/hood (annual, in £1k) |          |                 |      |
| Current year  | 30.1     | 29.8            | n.s. |

Notes: Approximate t-tests, comparing group means significant at \*\*\* .001, \*\* .01, \* .05. All estimates consider stratification and clustering on PSU. Weighted using adult self-completion response weights provided in UKHLS.

Source: Understanding Society, Wave 1, 2009-2010. Linked at LSOA/Data zone level with Census 2001, Experian 2009 (drawing also on data for 2004 and 2008)/Experian 2010 (drawing also on data for 2005 and 2009).

**Table 4: Individual and neighbourhood characteristics of the population living in Great Britain, 2009-2010 by ethnic group. Predicted means.**

|                                 | Irish White | Other White | Mixed    | Indian   | Pakistani | Bangladeshi | Caribbean | African  | Other    |
|---------------------------------|-------------|-------------|----------|----------|-----------|-------------|-----------|----------|----------|
| Life satisfaction               | 5.2         | 5.27        | 5.09 *** | 5.13 *** | 4.97 ***  | 4.84 ***    | 4.79 ***  | 5.11 *** | 5.1 **   |
| Female                          | 0.5         | 0.54        | 0.55 *** | 0.41     | 0.42 ***  | 0.41 ***    | 0.55 ***  | 0.50 *   | 0.49     |
| Age group                       |             |             |          |          |           |             |           |          |          |
| <i>Aged 16-24</i>               | 0.07 ***    | 0.16        | 0.31 *** | 0.22 *** | 0.27 ***  | 0.28 ***    | 0.13 ***  | 0.23     | 0.21 *** |
| <i>Aged 25-29</i>               | 0.09        | 0.20 ***    | 0.13 *** | 0.12 *** | 0.18 ***  | 0.18 ***    | 0.11 ***  | 0.13 *   | 0.14 *** |
| <i>Aged 30-44</i>               | 0.26        | 0.41 ***    | 0.31 *** | 0.37 **  | 0.35 ***  | 0.37 ***    | 0.29 ***  | 0.44 **  | 0.38 *** |
| <i>Aged 45-59</i>               | 0.27        | 0.13 ***    | 0.17 *** | 0.19 *** | 0.13 ***  | 0.12 ***    | 0.31 ***  | 0.16 *** | 0.19 *** |
| <i>Aged 60+</i>                 | 0.31        | 0.1 ***     | 0.07 *** | 0.09 *** | 0.07 ***  | 0.05 ***    | 0.16 ***  | 0.04 *** | 0.08 *** |
| Marital status                  |             |             |          |          |           |             |           |          |          |
| <i>Single never married</i>     | 0.21        | 0.31 ***    | 0.47 *** | 0.32 *** | 0.33 ***  | 0.35 ***    | 0.45 ***  | 0.39 *** | 0.33 *** |
| <i>Cohabiting</i>               | 0.57        | 0.6         | 0.46     | 0.63 *** | 0.61      | 0.6         | 0.39      | 0.5 ***  | 0.6 ***  |
| <i>Separated/Divorced</i>       | 0.12 *      | 0.05 ***    | 0.06 *** | 0.03 *   | 0.05 ***  | 0.04 ***    | 0.11 ***  | 0.09 **  | 0.05     |
| <i>Widowed</i>                  | 0.09        | 0.04 ***    | 0.01 *** | 0.02 *** | 0.01 ***  | 0.02 ***    | 0.05 ***  | 0.02 *   | 0.01 *** |
| Number of own kids in h/hold    | 0.35        | 0.5         | 0.5 ***  | 0.61     | 0.99 ***  | 0.96 ***    | 0.53 ***  | 0.96 **  | 0.58 *** |
| Highest qualification           |             |             |          |          |           |             |           |          |          |
| <i>Degree</i>                   | 0.3 ***     | 0.42 ***    | 0.28 *** | 0.45 *** | 0.3 ***   | 0.25 ***    | 0.19 *    | 0.36     | 0.44 *** |
| <i>Other higher degree</i>      | 0.11        | 0.13        | 0.11 **  | 0.11     | 0.08      | 0.05 **     | 0.13 ***  | 0.16     | 0.12 *** |
| <i>A-levels</i>                 | 0.16        | 0.16 *      | 0.27     | 0.17 *** | 0.18 **   | 0.25        | 0.21 *    | 0.2      | 0.15     |
| <i>GCSE or comparable</i>       | 0.12 ***    | 0.06 ***    | 0.22     | 0.13     | 0.2 ***   | 0.21        | 0.23      | 0.15     | 0.1 ***  |
| <i>Other qualification/None</i> | 0.31        | 0.22 ***    | 0.12     | 0.14 *** | 0.23 ***  | 0.24        | 0.23      | 0.13 **  | 0.18 *** |
| Employment status               |             |             |          |          |           |             |           |          |          |
| <i>Employed</i>                 | 0.43        | 0.56 ***    | 0.47 *** | 0.54     | 0.35 ***  | 0.44 ***    | 0.46      | 0.47     | 0.46     |
| <i>Self-employed</i>            | 0.09        | 0.11 **     | 0.07     | 0.07     | 0.09      | 0.08        | 0.07      | 0.05     | 0.08 **  |
| <i>Retired</i>                  | 0.25        | 0.08 ***    | 0.05 *** | 0.07 *** | 0.05 ***  | 0.03 ***    | 0.14 ***  | 0.03 *** | 0.05 *** |
| <i>Unemployed</i>               | 0.06        | 0.07        | 0.12 *** | 0.07 *** | 0.12      | 0.11 ***    | 0.15 ***  | 0.11 *** | 0.08 *** |
| <i>Other</i>                    | 0.17        | 0.19        | 0.29 *** | 0.25 *** | 0.4 ***   | 0.35 ***    | 0.19 ***  | 0.34 *   | 0.33 *** |

Continues next page

**Table 4 continued**

|                                       | Irish White | Other White | Mixed    | Indian   | Pakistani | Bangladeshi | Caribbean | African  | Other    |
|---------------------------------------|-------------|-------------|----------|----------|-----------|-------------|-----------|----------|----------|
| Net individual income (monthly, in £) | 1407        | 1441        | 1112 **  | 1215 *** | 1014 **   | 1125 **     | 1202      | 1032 **  | 1166 *** |
| Lives in owner occupied flat/house    | 0.59 ***    | 0.37 ***    | 0.5      | 0.68 *** | 0.71      | 0.51        | 0.5 ***   | 0.23 *** | 0.41 *** |
| Has longstanding illness/disability   | 0.38        | 0.23 ***    | 0.27 *** | 0.21 *** | 0.23 ***  | 0.18 ***    | 0.32 ***  | 0.13 **  | 0.21 *** |
| Has health problem                    | 0.49        | 0.28 ***    | 0.4 ***  | 0.29 *** | 0.31 ***  | 0.28 ***    | 0.47 ***  | 0.23 *   | 0.28 *** |
| Has a religion                        | 0.76 ***    | 0.6 ***     | 0.51 *** | 0.85     | 0.96 ***  | 0.92 ***    | 0.66 ***  | 0.92 *** | 0.66 *** |
| Number of years lived in UK           | 0.33 ***    | 0.1 ***     | 0.64 *** | 0.34 *** | 0.45 ***  | 0.38 ***    | 0.52 ***  | 0.14 *** | 0.17 *** |
| Lived in UK for <11 years             | 0.11 ***    | 0.62 ***    | 0.16 *** | 0.31 *** | 0.22 ***  | 0.23 ***    | 0.09 ***  | 0.54 *** | 0.5 ***  |
| Lived in UK for > 10 years            | 0.56 ***    | 0.28 ***    | 0.2 ***  | 0.35 *** | 0.33 ***  | 0.38 ***    | 0.39 ***  | 0.32 *** | 0.33 *** |
| Country of residence                  |             |             |          |          |           |             |           |          |          |
| <i>England</i>                        | 0.92 ***    | 0.91 ***    | 0.94 *** | 0.96 *** | 0.98 ***  | 0.98 ***    | 1 ***     | 0.96 *** | 0.92 *** |
| <i>Wales</i>                          | 0.03 ***    | 0.02 ***    | 0.02 *** | 0.01 *** | 0.01 ***  | 0.02 ***    | 0 **      | 0.01 *** | 0.02 *** |
| <i>Scotland</i>                       | 0.05 ***    | 0.06 ***    | 0.04 *** | 0.02 *** | 0.02 ***  | 0 ***       | 0 ***     | 0.03 *** | 0.06 *** |
| Lives in urban area                   | 0.86 ***    | 0.89 ***    | 0.93 *** | 0.98 *** | 0.99 ***  | 0.97 ***    | 0.99 ***  | 0.98 *** | 0.94 *** |
| Neighbourhood ethnic composition      |             |             |          |          |           |             |           |          |          |
| Proportion not UK White               | 0.2 ***     | 0.25 ***    | 0.25 *** | 0.4 ***  | 0.48 ***  | 0.48 ***    | 0.42 ***  | 0.36 *** | 0.27 *** |
| Proportion non-White                  | 0.13 ***    | 0.16 ***    | 0.18 *** | 0.34 *** | 0.43 ***  | 0.42 ***    | 0.33 ***  | 0.28 *** | 0.19 *** |
| Proportion co-ethnics                 | 0.02 ***    | 0.06 ***    | 0.01 *** | 0.15 *** | 0.22 ***  | 0.16 ***    | 0.08 ***  | 0.06 *** | 0.03 *** |
| Herfindahl Index                      | 0.69 ***    | 0.63 ***    | 0.63 *** | 0.51 *** | 0.46 ***  | 0.45 ***    | 0.43 ***  | 0.5 ***  | 0.61 *** |

Continues next page

**Table 4 continued**

|   | Irish White | Other White | Mixed    | Indian   | Pakistani | Bangladeshi | Caribbean | African  | Other    |
|---|-------------|-------------|----------|----------|-----------|-------------|-----------|----------|----------|
| Neighbourhood type<br>(proportion of h/holds in<br>group)                     |             |             |          |          |           |             |           |          |          |
| <i>Symbols of Success</i>   | 0.12        | 0.11        | 0.09 *** | 0.08     | 0.04 **   | 0.03 ***    | 0.05 ***  | 0.04 *** | 0.09 *** |
| <i>Happy families</i>   | 0.07 ***    | 0.08 ***    | 0.07 *** | 0.07 *** | 0.04 ***  | 0.04 ***    | 0.05 ***  | 0.06 *** | 0.08 *** |
| <i>Suburban Comfort</i>   | 0.15        | 0.11 ***    | 0.13     | 0.26 **  | 0.14 ***  | 0.1         | 0.14 ***  | 0.09     | 0.14 *** |
| <i>Ties of community</i>  | 0.14        | 0.17        | 0.19 *** | 0.27 **  | 0.49 ***  | 0.34 ***    | 0.26 ***  | 0.21 *** | 0.16 *** |
| <i>Urban Intelligence</i>   | 0.17 ***    | 0.24 ***    | 0.17     | 0.11 *** | 0.07 ***  | 0.13        | 0.17 ***  | 0.18 *** | 0.21 *** |
| <i>Welfare borderline</i>   | 0.08 **     | 0.1 ***     | 0.13 *** | 0.07 *** | 0.08 *    | 0.24 ***    | 0.18 ***  | 0.25 *** | 0.12 *** |
| <i>Municipal dependency</i>   | 0.06        | 0.03 ***    | 0.05     | 0.03 **  | 0.06 ***  | 0.02        | 0.04 ***  | 0.05 *** | 0.03 **  |
| <i>Blue collar enterprise</i>   | 0.1         | 0.07 ***    | 0.08 *** | 0.06 *** | 0.05 ***  | 0.05 ***    | 0.07 ***  | 0.08 *** | 0.08 *** |
| <i>Twilight subsistence</i>   | 0.03        | 0.02 ***    | 0.02 *** | 0.02 *** | 0.02 ***  | 0.02 ***    | 0.02 **   | 0.02 *** | 0.03 *** |
| <i>Grey perspectives</i>  | 0.07        | 0.06 ***    | 0.05 *** | 0.04 *** | 0.02 ***  | 0.02 ***    | 0.02 ***  | 0.02 *** | 0.05 *** |
| <i>Rural Isolation</i>  | 0.03 ***    | 0.02 ***    | 0.03 *** | 0.00 **  | 0.00 ***  | 0.01 ***    | 0.00 ***  | 0.00 *** | 0.01 *** |
| Median h/hold income in<br>current n/hood (annual, in<br>£1k) in current year | 31.7 *      | 32.3 ***    | 30.0 *** | 30.2     | 25.9      | 27.0 ***    | 27.7 ***  | 26.3 *** | 30.8 *** |

Notes: Approximate t-tests, comparing group means to UK White mean (see Column 2, Table 2a), significant at \*\*\* .001, \*\* .01, \* .05. All estimates consider stratification and clustering on PSU. Weighted using adult self-completion response weights provided in UKHLS.

Source: Understanding Society, Wave 1, 2009-2010. Linked at LSOA/Data zone level with Census 2001, Experian 2009 (drawing also on data for 2004 and 2008)/Experian 2010 (drawing also on data for 2005 and 2009).

**Table 5: Estimates of ethnic group differences in life satisfaction, with individual and area level controls**

|                                  | Model 1       |         | Model 2       |         |
|----------------------------------|---------------|---------|---------------|---------|
|                                  | Coeff.        | p-value | Coeff.        | p-value |
| Ethnic group (ref=White British) |               |         |               |         |
| Other White                      | -0.130        | 0.027   | -0.128        | 0.029   |
| Mixed groups                     | -0.131        | 0.048   | -0.124        | 0.060   |
| Indian                           | -0.257        | 0       | -0.249        | 0       |
| Pakistani                        | -0.324        | 0       | -0.289        | 0       |
| Bangladeshi                      | -0.444        | 0       | -0.399        | 0       |
| Caribbean                        | -0.289        | 0       | -0.261        | 0       |
| African                          | -0.146        | 0.046   | -0.107        | 0.148   |
| Other ethnic group               | -0.288        | 0       | -0.280        | 0       |
| Area median income level         |               |         | 0             | 0.790   |
| Mosaic area type (ref=Group A)   |               |         |               |         |
| <i>Group B</i>                   |               |         | -0.030        | 0.661   |
| <i>Group C</i>                   |               |         | -0.018        | 0.801   |
| <i>Group D</i>                   |               |         | -0.156        | 0.060   |
| <i>Group E</i>                   |               |         | -0.067        | 0.346   |
| <i>Group F</i>                   |               |         | -0.267        | 0.010   |
| <i>Group G</i>                   |               |         | -0.219        | 0.041   |
| <i>Group H</i>                   |               |         | -0.208        | 0.022   |
| <i>Group I</i>                   |               |         | 0.142         | 0.329   |
| <i>Group J</i>                   |               |         | 0.020         | 0.831   |
| <i>Group K</i>                   |               |         | 0.135         | 0.095   |
| Proportion co-ethnic in area     |               |         |               |         |
| Constant                         | 6.451         | 0       | 6.488         | 0       |
| R-Squared                        | 0.088         |         | 0.09          |         |
| <b>Number of Observations</b>    | <b>37,590</b> |         | <b>37,590</b> |         |

Analyses are adjusted for sample design and non-response. Models include controls for 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, immigrant generation and citizenship, urban rural indicator, UK country of residence.



**Table 6: Estimates of the impact of proportion co-ethnics on life satisfaction, with individual and area level controls: White British only**

|                                    | Model 3       |         | Model 4       |         |
|------------------------------------|---------------|---------|---------------|---------|
|                                    | Coeff.        | p-value | Coeff.        | p-value |
| Neighbourhood proportion co-ethnic | 0.289         | 0.006   | 0.317         | 0.008   |
| Area median income level           |               |         | -0.001        | 0.807   |
| Mosaic area type (ref=Group A)     |               |         |               |         |
| <i>Group B</i>                     |               |         | -0.001        | 0.994   |
| <i>Group C</i>                     |               |         | 0.009         | 0.911   |
| <i>Group D</i>                     |               |         | -0.136        | 0.146   |
| <i>Group E</i>                     |               |         | 0.044         | 0.633   |
| <i>Group F</i>                     |               |         | -0.238        | 0.059   |
| <i>Group G</i>                     |               |         | -0.210        | 0.072   |
| <i>Group H</i>                     |               |         | -0.166        | 0.100   |
| <i>Group I</i>                     |               |         | 0.091         | 0.563   |
| <i>Group J</i>                     |               |         | 0.021         | 0.832   |
| <i>Group K</i>                     |               |         | 0.147         | 0.083   |
| Constant                           | 6.187         | 0       | 6.167         | 0       |
| R-Squared                          | 0.09          |         | 0.092         |         |
| <b>Number of Observations</b>      | <b>29,821</b> |         | <b>29,821</b> |         |

Analyses are adjusted for sample design and non-response. Models include controls for 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, immigrant generation and citizenship, urban rural indicator, UK country of residence.

**Table 7: Estimates of the impact of proportion co-ethnics on life satisfaction, with individual and area level controls: Minority ethnic groups**

|                                      | Model 3      |         | Model 4      |         |
|--------------------------------------|--------------|---------|--------------|---------|
|                                      | Coeff.       | p-value | Coeff.       | p-value |
| Ethnic group (ref=Indian)            |              |         |              |         |
| Other White                          | 0.078        | 0.25    | 0.116        | 0.191   |
| Mixed groups                         | 0.058        | 0.47    | 0.16         | 0.135   |
| Pakistani                            | -0.067       | 0.422   | -0.119       | 0.25    |
| Bangladeshi                          | -0.204       | 0.064   | -0.301       | 0.046   |
| Caribbean                            | -0.045       | 0.591   | -0.084       | 0.461   |
| African                              | 0.089        | 0.265   | -0.033       | 0.753   |
| Other ethnic group                   | -0.066       | 0.357   | -0.087       | 0.329   |
| Area median income level             |              |         | 0.004        | 0.279   |
| Mosaic area type (ref=Group A)       |              |         |              |         |
| <i>Group B</i>                       |              |         | -0.457       | 0.011   |
| <i>Group C</i>                       |              |         | -0.213       | 0.183   |
| <i>Group D</i>                       |              |         | -0.220       | 0.231   |
| <i>Group E</i>                       |              |         | -0.268       | 0.08    |
| <i>Group F</i>                       |              |         | -0.296       | 0.134   |
| <i>Group G</i>                       |              |         | -0.300       | 0.253   |
| <i>Group H</i>                       |              |         | -0.590       | 0.007   |
| <i>Group I</i>                       |              |         | 0.725        | 0.048   |
| <i>Group J</i>                       |              |         | -0.272       | 0.307   |
| <i>Group K</i>                       |              |         | 0.176        | 0.595   |
| Proportion co-ethnic                 | -0.131       | 0.636   | -0.194       | 0.489   |
| Proportion co-ethnic interacted with |              |         |              |         |
| Other White                          | -0.292       | 0.762   | -0.789       | 0.452   |
| Mixed groups                         | -15.297      | 0.035   | -14.952      | 0.049   |
| Pakistani                            | 0.317        | 0.512   | 0.361        | 0.461   |
| Bangladeshi                          | 0.611        | 0.194   | 0.711        | 0.13    |
| Caribbean                            | 0.355        | 0.708   | 0.482        | 0.621   |
| African                              | 1.752        | 0.080   | 1.92         | 0.066   |
| Other ethnic group                   | 0.555        | 0.821   | -0.439       | 0.857   |
| Constant                             | 6.442        | 0       | 6.487        | 0       |
| R-Squared                            | 0.075        |         | 0.081        |         |
| <b>Number of Observations</b>        | <b>7,769</b> |         | <b>7,769</b> |         |

Analyses are adjusted for sample design and non-response. Models include controls for 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, immigrant generation and citizenship, urban rural indicator, UK country of residence.