Reference number: RES-163-25-0045

Neighbourhoods and the creation, stability and success of mixed ethnic unions

Full report

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Background

Numerous geographical studies have explored ethnic segregation (Burgess, et al 2005; Johnson, et al., 2005; Peach, 1996; Simpson, 2004). Most use cross-sectional data to determine how geographically segregated different ethnic minority groups are, while a few have also explored how these patterns have changed over time. At the heart of these studies is the notion of ethnic mixing in different places, with the implicit assumption that less segregated places include a mix of households from different ethnic groups. None of these studies explore ethnic mixing *within households* and the contextual factors that might influence this.

In a world where homogamy is the rule rather than exception, mixed-ethnic unions represent the breakdown of ethnic barriers and are indicative of the degree of ethnic embeddedness in a society, a particularly sensitive political issue currently. The persistent segregation and exclusion of ethnic minorities has caused tensions between minority and majority populations, despite the apparent efforts made by successive British governments to promote racial equality and 'integration'.

Against this background, it is reassuring to find that over the past several decades, the number of mixed-ethnic unions has increased substantially (Coleman, 2004). The Office for National Statistics (ONS) Longitudinal Study (LS) reveals that there has been a 65% increase in the total number of mixed-ethnic unions between 1991 and 2001 in England and Wales. Such mixed-ethnic unions have profound effects on the ethnic composition of the population, including the creation of new minority groups of mixed origin. It is estimated that nearly a million people report themselves as having a mixed-ethnic identity in Britain today (CRE, 2006).

The geographical study of mixed-ethnic couples is not new, although most of this research has been conducted in the US (Peach, 1980, Wong, 1999). This study builds on a long history of research on residential segregation, but extends this work to explore how mixed-ethnic couples contribute to changing ethnic geographies. Limited research has examined mixed-ethnic unions in the UK, mainly using cross-sectional data from the 1991 Census 1% Household Samples of Anonymised Records (SAR) or the UK Labour Force Surveys (LFS) (e.g. Ballard 1997; Berrington 1996; Coleman 1985, 2004; Data Management and Analysis Group Update 2005; Holdsworth and Dale 1997; Johnston, et al., 2006, Muttarak, 2004). The 1994 Fourth National Survey of Ethnic Minorities was also used to investigate mixed-ethnic unions (Muttarak, 2003). Most of these studies focussed on basic trends in the growth of mixed-ethnic unions. A notable exception is Muttarak's (2004) study which investigated the socio-economic determinants of mixed-unions using LFS data. However, none of these published studies have used longitudinal data to explore changes in the geographies of mixed-ethnic couples. In particular, no study has examined whether living in mixed-ethnic neighbourhoods makes it more likely for people to enter mixed-ethnic unions, *or* whether those in mixed-ethnic unions are more likely to move into mixed-ethnic neighbourhoods. Nor has any study examined the stability of mixed-ethnic unions and how this may be influenced by geographical context, or whether mixed-ethnic households are

more likely to live in, or move to, higher-status neighbourhoods. This study is therefore the first to explore the local geography of mixed-ethnic unions in Britain and to examine the associations of neighbourhoods and mixed-ethnic partnerships using longitudinal data.

Objectives

The overall aim of this study was to examine the influence of geographical context on the formation, stability and success of mixed-ethnic unions. The specific objectives of this study, all successfully met, were to:

1. Measure the growth of mixed-ethnic couples and their changing geographical distribution between 1991 and 2001.

We used ONS LS and Scottish Longitudinal Study (SLS) data. For 1991 and 2001 separately, we included all LS members and all SLS members aged 16 and over who were either married or cohabiting. We calculated the prevalent rates of mixed ethnic unions, proportions of out-partnering with respect to socio-demographic factors, changes between 1991 and 2001 by country and by Government Office Region.

2. Test whether living in a mixed-ethnic neighbourhood makes it more likely that people will end up in mixed-ethnic couples.

We used ONS LS data and included all LS members aged 6 and over who were single in 1991 and present in 2001. The geographies in the analysis were 1991 districts and 1991 wards separately representing marriage market areas and local neighbourhoods. We used the proportion of an ethnic minority population in an area to measure ethnic mixing (at the level of districts and wards). Multinomial logistic regression was used to analyse the likelihood of out-partnering by ethnic group. We controlled for gender, age, country of birth, level of education, social class, housing tenure and region in 1991.

3. Test whether people in mixed-ethnic couples are more likely to move into mixed-ethnic neighbourhoods.

We used ONS LS data and included all LS members aged 16 and over who were either married or cohabiting in 1991 and remained as a couple in 2001. The geographies in the analysis were 1991 and 2001 wards representing local neighbourhoods classified by their ethnic mix. Multinomial logistic regression was used to examine whether minority LS members with White partners were more likely than those in co-ethnic unions to move into more mixed neighbourhoods. We controlled for individual covariates as in objective 2.

4. Test whether mixed-ethnic couples are more likely to dissolve than single-ethnic couples.

We selected all LS members aged 16 and over who were either married or cohabiting in 1991 and present in 2001 for this analysis. To examine whether mixed ethnic couples are less stable than co-ethnic couples we compared the risk of dissolution for mixed ethnic couples with that of co-ethnic couples.

5. Test whether mixed-ethnic couples are less likely to dissolve if they live in mixed-ethnic neighbourhoods.

We used the same LS sample as above and extended the analysis by including ward level measures of ethnic concentration.

6. Test whether living in a less deprived neighbourhood makes it more likely that people will end up in mixed-ethnic couples.

We used an LS sample of those aged 6 and over who were single in 1991 and present in 2001. To measure neighbourhood deprivation we used Carstairs deprivation quintiles at the 1991 ward level. Multinomial logistic regressions were used to analyse the likelihood of out-partnering a White person with Blacks, South Asians and Other Asian, adjusting for covariates as in objective 2.

7. Test whether people in mixed-ethnic couples are more likely to move into less deprived neighbourhoods.

We extended the analyses of migration for objective 3 by including the Carstairs deprivation of the neighbourhoods and assessed movement between areas of different levels of deprivation for mixed or co-ethnic couples.

Methods

Datasets

In Britain, the ONS-LS and the SLS are the only longitudinal datasets that include large enough samples to allow study of mixed-ethnic unions. The LS is a nationally representative 1% sample of the England and Wales population including approximately 500,000 people (based on those born on one of four birthdates). Begun in the 1970s it includes linked information from the 1971, 1981, 1991 and 2001 censuses. Although an ethnic question was only included in the 1991 and 2001 censuses, for some of analyses the ethnicity of people in 1981 was back-coded from the later data. Geocoding allows additional geographical variables, such as the mixed-ethnic neighbourhood indicators developed in this study, to be attached to ONS-LS members.

The SLS is more recent and includes information from the 1991 and 2001 censuses. It is a 5.3% sample of the Scottish population, based on 20 birthdates, and includes about 270,000 people. However, the number of non-white people is relatively small in Scotland so the numbers of mixed ethnic unions is insufficient for some analyses. Hence, we used SLS and LS data to explore the first of our objectives, but focus on England and Wales for the remainder.

Defining ethnicity

The ethnicity questions in the 1991 and 2001 Censuses were different. In 2001 the question was changed to capture the rise in the number of people who reported 'mixed-ethnicity'. For consistency across 1991 and 2001, and following previous studies (Platt et al., 2005; Bradford, 2006), we identified five broad ethnic groups: White, Black, South Asian, Other Asian, and Other (Table 1). However, in our analyses we excluded the Other group which is small and heterogeneous.

Between 1991 and 2001 a small number of individuals changed the way they recorded their ethnicity. This was most common among mixed-ethnic and Black groups. In the analysis of the pattern of mixed-ethnic unions we used the ethnicity variables for 1991 and 2001 separately for each sample as some of the 1991 members were not followed in 2001. In the analysis of the formation and migration of mixed-ethnic unions we used the 2001 variable. In the analysis of the stability of mixed ethnic unions, we used the 1991 variable. In the 2001 Census, 2.9% of responses to the ethnicity question were imputed, falling to 2.1% for those linked between 1991 and 2001. Imputation is more common among those

belonging to minority groups. Unfortunately, the imputation is unreliable (Platt *et al.* 2005) and we dropped LS members with imputed ethnicity.

Classification of geographical areas

The scale at which people's residential contexts should be measured is debateable (van Ham and Feijten, 2008). With regard to union formation, for example, people meet potential partners at school, in the workplace, and at leisure venues and these can stretch from the direct surroundings of the home to the neighbourhood, to whole cities and larger regions. Together, these meeting places form the local marriage market area. In the study of the formation of mixed ethnic unions, we measured marriage markets at two spatial levels: local government districts and wards. Local government districts contain an average of around 120,000 people (regional marriage market areas) while wards contain populations of around 6,000 (neighbourhoods, or local marriage market areas). For each of these spatial levels we calculated the ethnic mix of the population: low, medium and high concentrations. This classification is ethnic group specific, based on the percentage of that group in an area. For example, for Black people the classification was based on the percentage of the Black population in districts and wards. Cut-off points were then chosen so that the Black population was distributed approximately equally across neighbourhood types. The minimum and maximum percentages of each ethnic minority group, the number of areas in each category, and the total white and minority ethnic populations are listed in Table 2 for districts and in Table 3 for wards.

Results

Objective 1 Measure the growth of mixed-ethnic couples and their changing geographical distribution between 1991 and 2001

Table 4 shows the distribution of minority men and women by the ethnicity of their partner in 2001. The majority of men and women live with a partner from their own ethnic group, but there are exceptions to this. Black men and women in Scotland have higher rates of living with White partners than living with Black partners. Overall, Black men are the most likely to be in a mixed ethnic union; 31% of Black men have a White female partner in England and Wales as do 64% in Scotland. Black women also have a high out-partnering rate; 25% of Black women have a White male partner in England and Wales as do 60% in Scotland. South Asian men and women have very low rates of exogamous partnerships with Whites (4.8% and 3.3% in England and Wales, 12% and 9% in Scotland). Other Asian men and women have exogamous partnering rates in between the other two groups. In England and Wales, around 14% of the Other Asian men have a White partner and 20% of Other Asian women have a White partner. In Scotland, the rates are 22% and 25%. There is a gender disparity in the propensity of out-partnering. Black and South Asian men are more likely than women to partner with a White person, while for Other Asians women are more likely to choose a White partner than men. This is a consistent finding over the last two decades (Berrington, 1996; Muttarak, 2004; Coleman, 2004).

Figures 1 and 2 show the change in the percentage of out partnering with White people between 1991 and 2001 by ethnic group and gender for England and Wales, and Scotland. The general pattern is one of growth, apart from Other Asian women where there seems to be a drop in the percentage of mixed-ethnic unions with a White partner (from 28% to 20% in England and Wales). The largest increase in mixed-ethnic unions is observed for South Asian women (although the overall rate remains low).

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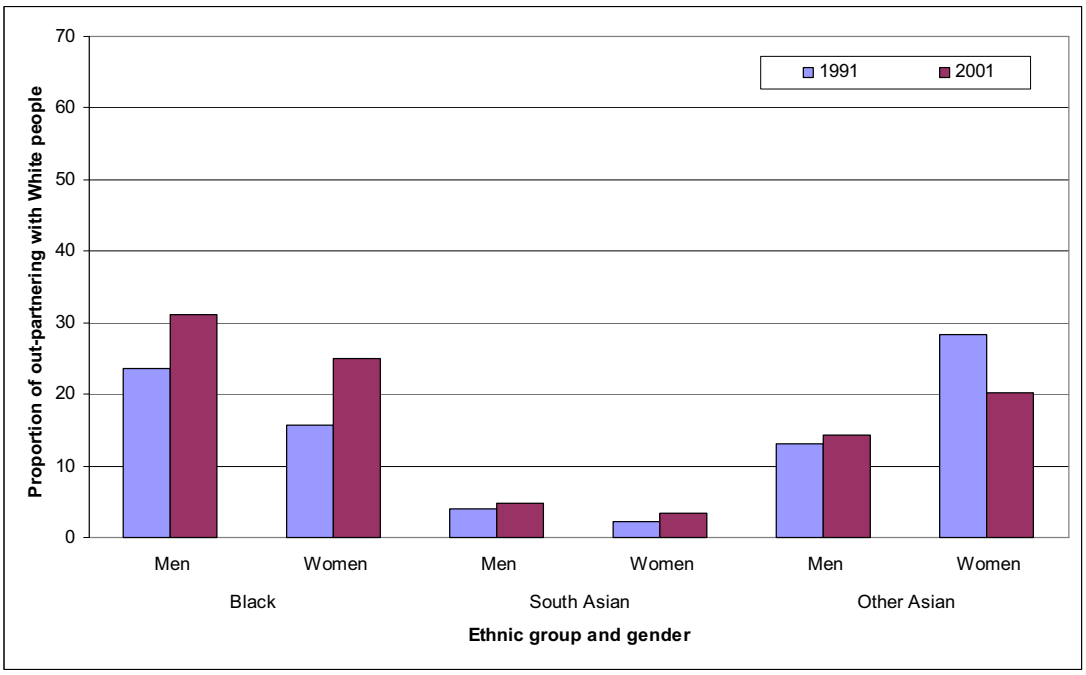

Fig 1 Percentage of ethnic minorities living with a White partner in 1991 and 2001, England and Wales
Source: ONS LS, Authors' calculations

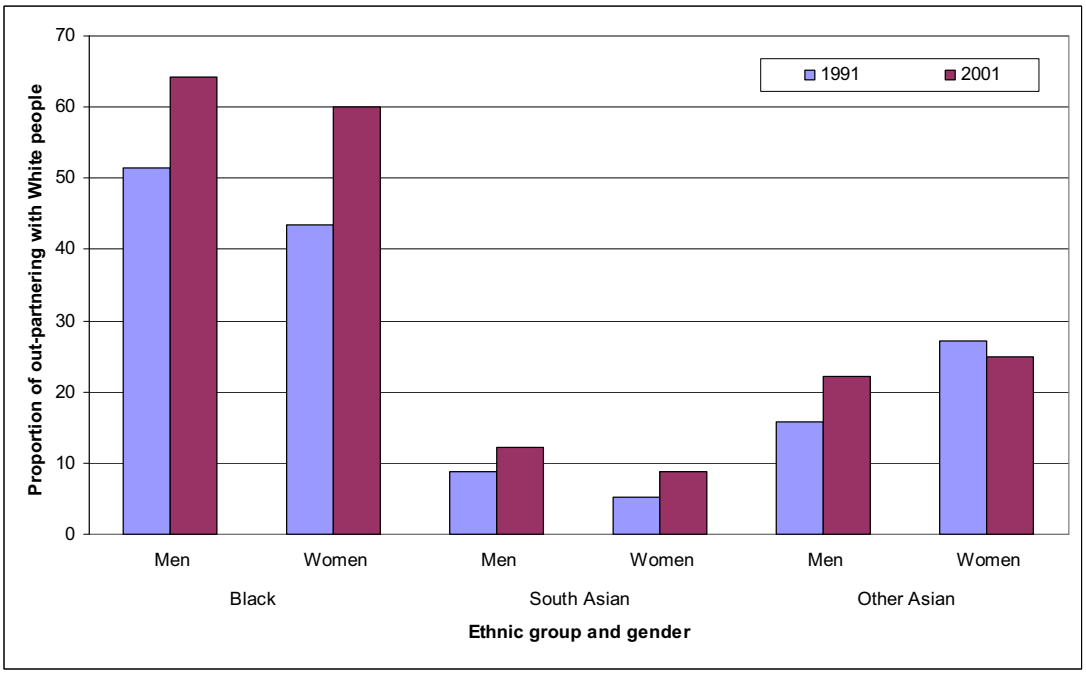

Fig 2 Percentage of ethnic minorities living with a White partner in 1991 and 2001, Scotland
Source: SLS, Authors' calculations

Tables 5 and 6 show the proportion in mixed ethnic unions by Government Office Region in England and Wales in 1991 and 2001. The proportion of minority people in mixed ethnic unions is higher in regions with smaller minority populations. For Blacks and Other Asians the lowest rates of out-partnering are found in London, with higher rates in all other regions, whereas for South Asians the lowest rates are in the North and the Midlands, followed by London and higher elsewhere. From 1991 to 2001, the rate of out partnering increases for Black people and South Asian men across the whole country. For Other Asian women the rate decreases in most regions while for South Asian women and Other Asian men the rate increases in some regions but decreases in others.

Objective 2 Test whether living in a mixed-ethnic neighbourhood makes it more likely that people will end up in mixed-ethnic couples

We estimated the likelihood of out-partnering with a White person for three ethnic groups, Black, South Asian, and Other Asian, across different types of geographical area. We controlled for 1991 individual variables including age, country of birth, social class, level of education, and housing tenure. For LS members under 21 in full time education in 1991 the social class and level of education of head of households were used as proxies. We used two methods of classifying geographical areas based on districts and wards, the former relating more to the broader marriage market area and the latter to the local neighbourhood. We also derived the combined neighbourhood types, which involves the interaction between districts and wards. The combined neighbourhood type allows us to explore the relative importance of two geographical levels within the same modelling framework. Another benefit is that from a segregation perspective, a ward which is highly concentrated with a minority group within a White dominant district can be regarded as highly segregated compared to a ward which is highly concentrated but within a district that has a high concentration of that minority group.

To illustrate the impact of neighbourhoods on the propensity of choosing a White partner we calculated probabilities of forming mixed ethnic couples by ethnic group and neighbourhood type (Figure 3). All variables except those measuring mixed partnerships were set to their mean values. We can see that Black or South Asian in districts with a medium or high concentration of their own group in 1991 were less likely to choose White people as partners than those living in districts with a low concentration of their own group. People living in areas with a high concentration of their ethnic group in 1991 were least likely to out-partner by 2001. For Blacks, the variation in the probability of out-partnering is more associated with the ethnic mix at the district level than at the ward level: the probabilities vary more across district types than across ward types. It can be concluded that districts are more relevant than wards in influencing the formation of mixed-ethnic unions for Blacks. In contrast, for South Asians, the variation in the probability of out-partnering is more associated with ward level ethnic mix than district level ethnic mix. The pattern is not so clear for Other Asians but the rates shown for this group are based on small numbers and are thus imprecisely estimated. An analysis was also undertaken for a 1981-1991 sample and the same broad outcomes were found.

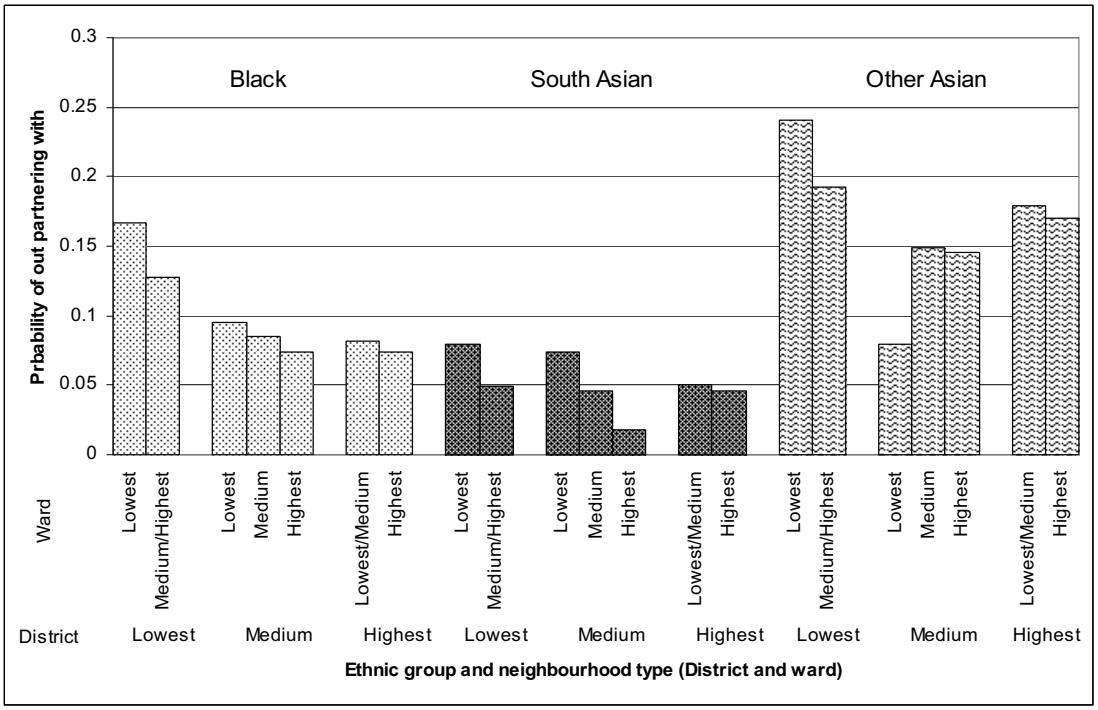

Fig 3 Probability of forming a mixed ethnic union in 2001 by ethnic group and 1991 district and ward type
Source: ONS LS, Authors' calculations

Objective 3 Test whether people in mixed-ethnic couples are more likely to move into mixed-ethnic neighbourhoods

As in the analysis of the formation of mixed ethnic unions we classified wards into three types by the concentration of each minority group, separately for 1991 and 2001. We identified those who had not moved or had moved between the same type of area; had moved into less concentrated areas; and had moved into more concentrated areas. Multinomial logistic regression models were used, controlling for gender, age, country of birth, marital status, educational qualifications, social class, housing tenure and region in 1991.

Figure 4 presents the adjusted relative risk of moving into a less concentrated area compared to more concentrated areas. South Asians and Other Asians all had higher propensities to move into less concentrated areas, whereas the propensities for Blacks were not significantly different from unity (1.02 for co ethnic unions and 1.08 for mixed). For South Asians and Other Asians those in mixed ethnic unions had markedly higher relative risks of moving into less concentrated areas than those in co-ethnic unions.

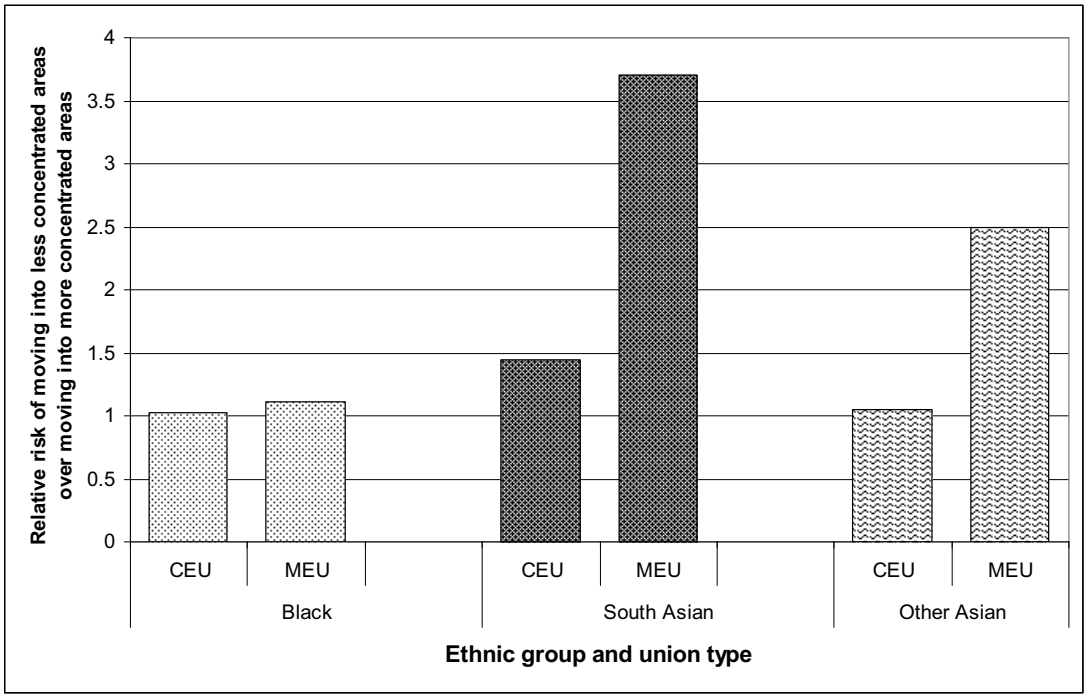

Fig 4 Relative risks of moving into less concentrated areas over moving into more concentrated areas (CEU: co-ethnic unions; MEU: mixed ethnic unions)

Objective 4 Test whether mixed-ethnic couples are more likely to dissolve than single-ethnic couples

Rates of union dissolution among White, Black, South Asian and Other Asian co-ethnic unions between 1991 and 2001 were respectively 13.5%, 22.0%, 10.6%, and 10.8%, and all mixed ethnic unions were more likely to end up in separation than co-ethnic unions. For South Asian men, if they partnered a White woman, the rate of dissolution was 75% higher than the rate for their co-ethnic union counterparts. The rate was 20% higher for Black and Other Asians in mixed ethnic unions compared to co-ethnic unions.

We used logistic regressions with the outcome dissolved by 2001, controlling for age, country of birth, level of education, social class, marital status, housing tenure, number of children, presence of children under 5 and limiting long term illness in 1991. We also included three variables indicating heterogamy between the couples based on whether the female partner was: older than her partner; better educated than her partner in 1991; and in a higher social class than her partner in 1991.

We compared the risk of dissolution of each type of mixed ethnic couple with the risks for the two respective co-ethnic unions. If the risk of dissolution for mixed ethnic unions is higher than the maximum risk derived from the two co-ethnic unions then the heterogamy effect is strong; if it is higher than the average risk derived from the two co-ethnic unions then the heterogamy effect is weak; and if neither of the above is found, then the risk is not excessive and a convergence in terms of dissolution behaviour is confirmed (Jones, 1996, Kamijin, et al, 2005).

We calculated the probability of dissolution for each ethnic/gender group from the regression coefficients (Table 7). The average of the ratios of all the combinations, presented in the last row of the table, appears to support a heterogamy effect: the overall risk of

dissolution is 8% higher than the maximum and 23% higher than the average risk. However, the heterogamy effect varied by type of mixed-ethnic union. The strongest effects were observed for partnerships between South Asians and Whites. The dissolution risk among mixed ethnic unions between South Asian women and White men was 30% higher than the maximum risk and around 40% higher than the average risk. The dissolution risk among mixed ethnic unions between South Asian men and White women was slightly lower but still 24% higher than the maximum risk and around 28% higher than the average. For mixed unions between Black women and White men the heterogamous effect is also quite strong. The risk of dissolution is 8% higher than the maximum and 50% higher than the average. Among Black men and White women partnerships, the risk of dissolution is weak, with the probability of dissolution lower than the maximum of two risks and only 22% higher than the average. For Other Asian men and White women, there is a strong heterogamy effect with the risk higher than maximum risk. The risk of dissolution among Other Asian women and White men is different from all other combinations, as the probability of dissolution is lower than the maximum and the average risk (no heterogamy effect).

Objective 5 Test whether mixed-ethnic couples are less likely to dissolve if they live in mixed-ethnic neighbourhoods

The analysis for Objective 4 was extended to include the proportion of the ethnic minority population in neighbourhoods (wards) in 1991 as a predictor of dissolution (Figure 5). Blacks, South Asians and Other Asians partnered with White person in 1991, had a higher risk of dissolution by 2001 in most types of neighbourhood. Two exceptions were Black people in wards with the highest concentration of Black people, and Other Asian people in wards with the lowest concentration of Other Asian population. Overall, though, there was no strong statistical evidence that the dissolution of mixed ethnic unions varied significantly by neighbourhood type.

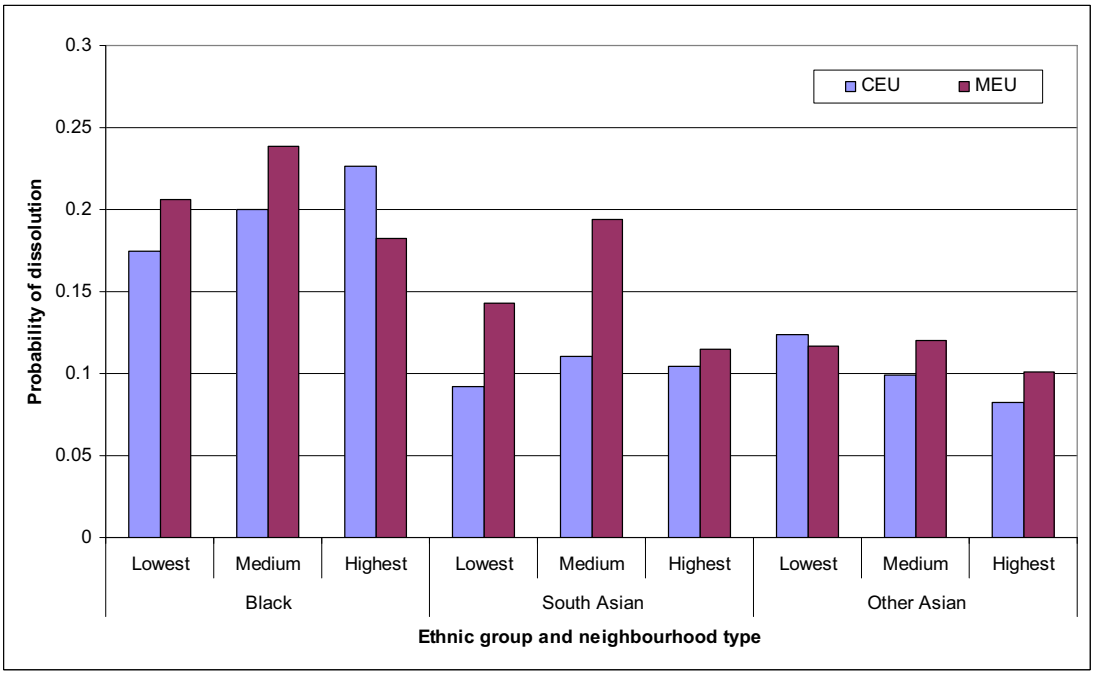

Fig 5 Predicted probability of dissolution by neighbourhood type. (CEU: co-ethnic unions; MEU: mixed ethnic unions)

Objective 6 Test whether living in a less deprived neighbourhood makes it more likely that people will end up in mixed-ethnic couples

The sample used in this study is the same as the one used for objective 2. We aggregated the Carstairs quintiles at the ward level into three categories. The Least Deprived included quintiles 1 and 2, the Moderately Deprived included quintiles 3 and 4, and the Most Deprived included quintile 5. As more minority people lived in the most deprived areas this classification resulted in the minority population distribution being more evenly distributed across the three categories.

We used multinomial logistic regressions and the probability of out-partnering with a White person is displayed for different minority groups (Figure 6). Black and South Asian singles in the least deprived areas in 1991 were most likely to choose a White partner by 2001 while those who lived in the most deprived areas were least likely to choose a white partner. There was no clear pattern for Other Asians, which may be due to the small number in this ethnic group. An analysis was also undertaken for a 1981-1991 sample and the same outcome was found.

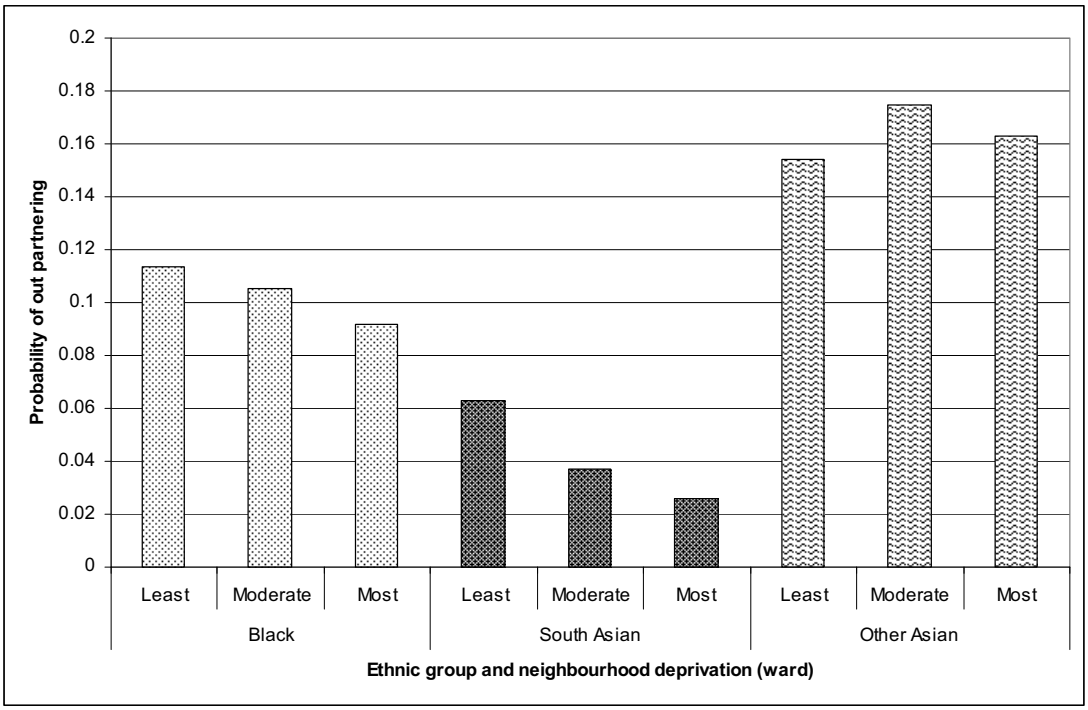

Fig 6 Probability of out partnering with a White partner for minority people by neighbourhood deprivation

Objective 7 Test whether people in mixed-ethnic couples are more likely to move into less deprived neighbourhoods

The dataset was the same as that for Objective 3 and we added ward level Carstairs deprivation scores to measure areal deprivation in 1991 and 2001, as we did for Objective 6. We compared the level of deprivation between 1991 and 2001 in the area where each minority group lived. We identified three types of outcomes as our dependent variable: did not move or moved between the same type of areas; moved into less deprived areas; and

moved into more deprived areas. We used multinomial regressions controlling for age, country of birth, social class, education level, housing tenure, number of children and region.

Figure 7 presents the relative risks of moving into less deprived areas over moving into more deprived areas by ethnic group and union type. Regardless of whether they were in mixed or co-ethnic unions, all ethnic minority people were more likely to move into less deprived areas than into more deprived areas. South Asians who partnered Whites were slightly more likely to move into less deprived areas than co-ethnic South Asian couples. In contrast, Black and Other Asians in mixed ethnic unions, were slightly less likely to move into less deprived areas than those in co-ethnic unions.

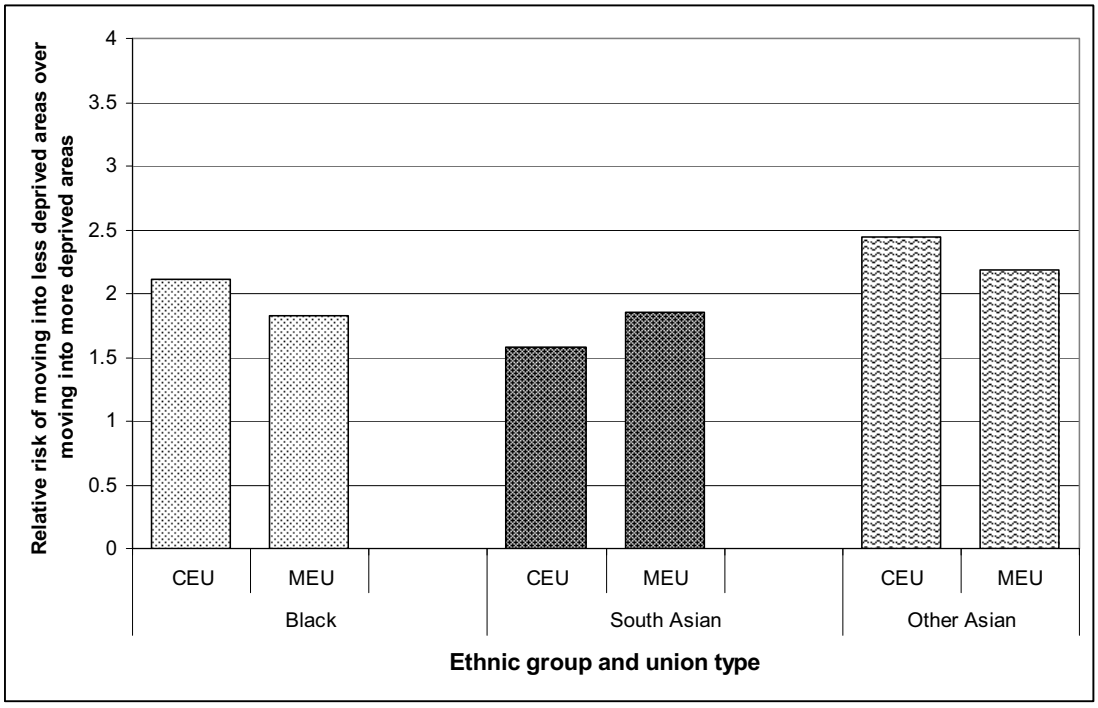

Fig 7 Relative risk of moving into less deprived areas over moving into more deprived areas (CEU: co-ethnic unions; MEU: mixed ethnic unions)

Conclusions

In this project we have systematically examined neighbourhood effects on the formation, stability and success of mixed ethnic unions in Britain. We found that between 1991 and 2001 there was a growth in the prevalence of mixed ethnic unions. However, this growth was not even across the regions with some experiencing a decline in the proportion of mixed ethnic unions for some ethnic/gender groups.

We found that those in minority groups living in areas with smaller concentrations of their own group were more likely to develop a relationship with a white person. Minority group people living in areas that were less deprived were also more likely to partner a white person and minority group people who partnered a White person in 1991 had an excessive risk of dissolution compared to those who were married or cohabiting with people from the same ethnic group. This is in line with findings from studies in the U.S. and the Netherlands. However, not all ethnic/gender groups had excessive risks of dissolution. Other Asian women who out-partnered with White men had a lower probability of dissolution than

Other Asian women who in-partnered. We did not find a significant association between neighbourhood concentrations of different ethnic groups and the risk of dissolution.

We found that those in mixed ethnic unions were more likely to move into areas with a lower concentration of their own ethnic group than their counterparts in co-ethnic unions. However, minority group people in mixed ethnic unions and co-ethnic unions all showed a higher propensity of moving into less deprived areas. This finding suggests that minority group people have the same aspiration of moving to high status neighbourhoods regardless of whether there is a concentration of their own group or not.

The growth of mixed ethnic unions, movement into less concentrated areas and movement into less deprived areas demonstrated that there was an increasing social and geographical integration of minority group people into the British society between 1991 and 2001. However, such integration is not without problems as union dissolution is still more common among co-ethnic couples.

Activities:

Conference or Seminar Presentations:

Neighbourhoods and the creation, stability and success of mixed ethnic unions, UPTAP workshop, University of Leeds, Leeds, 18-19 March 2008.

Mixed ethnic unions in England and Wales in the 1990s, International Conference on "Census Microdata: findings and futures", University of Manchester, Manchester 1-3 September 2008.

The neighbourhood effects on the formation of mixed ethnic unions In Britain, European Population Conference, University of Barcelona, Barcelona, 9-12 July, 2008.

Neighbourhoods and the creation, stability and success of mixed ethnic unions, UPTAP workshop, University of Leeds, Leeds, 23-25 March 2009.

Neighbourhood effects on the formation and migration of mixed ethnic unions, International Conference of Population Geographies, Dartmouth College, Dartmouth, 05-08 August, 2009.

The residential mobility of mixed ethnic unions: a longitudinal study, IBG/RGS Annual Conference, University of Manchester, Manchester, 26-28 August, 2009.

Neighbourhood effects on the formation and migration of mixed ethnic unions, Seminar, General Registrar's Office for Scotland, 6 November 2009.

Workshops attended:

VML Quarterly Workshop, The ONS Longitudinal Study (LS), ONS, London, 8th May, 2008.

Measuring segregation: methods, tools and data, a two-day workshop, ESRC Research Methods Workshop Series, University of Bristol, Bristol, 10th-11th February, 2009.

Outputs:

We contributed a book chapter to the third volume of the UPTAP series and two further publications are in preparation:

Feng Z., Boyle P., van Ham M. & Raab G., (forthcoming) Neighbourhood Ethnic Mix and the Formation of Mixed-ethnic Unions in Britain, in Stillwell, J & van Ham, M, eds Understanding Population Trends and Processes Volume 3: Ethnicity and Integration, Publisher: Springer.

Neighbourhood Ethnic Mix and the Formation of Mixed-ethnic Unions in Britain, **to be submitted to** *Journal of Racial Studies*.

Mixed ethnic unions and risk of dissolution in Britain, **to be submitted to** *Journal of Marriage and the Family*.

Impacts:

We used various opportunities in UPTAP workshops and other conferences to communicate both with academics and with researchers from government agencies. These results were particularly interesting for those working in areas with large ethnic populations. We also gave a presentation in General Registrar's Office for Scotland drawing the audience from various government agencies across the Scottish Government. Our presentation at the RGS/IBG conference drew attention from the conference organisers and a summary of the research findings was published online on the RGS website. We plan to continue dissemination of these results to both academic and non-academic audiences, and anticipate that the key findings will be of interest to the media.

Future Research Priorities

We have identified two further topics which require further research: 1) The geographical distribution of mixed ethnic households and its effect on segregation; We will investigate whether mixed ethnic households are distributed differently from co-ethnic households and what effects this has on segregation measures. 2) The social mobility of people in mixed ethnic unions in Britain. We will investigate whether minority people who out-partner White people are more likely to be upwardly mobile compared to those who live with co-ethnic partners.

Acknowledgements

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