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## A longitudinal study of migration propensities for mixed ethnic unions in England and Wales

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February 2012

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## **ABSTRACT**

### **A Longitudinal Study of Migration Propensities for Mixed Ethnic Unions in England and Wales**

Most studies investigating residential segregation of ethnic minorities ignore the fact that the majority of adults live in couples. In recent years there has been a growth in the number of mixed ethnic unions that involve a minority member and a white member. To our knowledge, hardly any research has been undertaken to explicitly examine whether the ethnic mix within households has an impact on the residential choices of households in terms of the ethnic mix of destination neighbourhoods. Our study addresses this research gap and examines the tendencies of migration among mixed ethnic unions in comparison with their co-ethnic peers. We used data from the Longitudinal Study for England and Wales. Our statistical analysis supports the spatial assimilation theory: ethnic minorities move towards less deprived areas and to a lesser extent also towards less ethnically concentrated areas. However, the types of destination neighbourhood of minority people living in mixed ethnic unions varied greatly with the ethnicity of the ethnic minority partner.

JEL Classification: J12, J15, J61, R23

Keywords: mixed ethnic unions, migration, deprivation, ethnic concentration,  
longitudinal analysis

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## INTRODUCTION

Residential integration is regarded as a measure of structural assimilation of ethnic minority populations and has drawn long-standing interest from academic studies (Park and Burgess 1969; Lieberman 1963; Massey 1985; Allen and Turner 1996). Residential integration is not only an indicator of the degree of ethnic assimilation, but also further enhances social and cultural integration. Conversely, ethnic segregation is deemed to hinder social interaction with majority populations, and to marginalise ethnic minority populations. Hence the British government has increasingly promoted community cohesion and residential integration.

While a body of research has examined aggregate levels of residential segregation of ethnic minority groups and the cross-sectional residential locations of ethnic minority populations at the individual level, few studies have examined the determinants of the actual residential migration of ethnic minorities in relation to characteristics of neighbourhoods of origin and destination (Finney and Simpson 2008). Little is known about how ethnic minority people move between neighbourhoods with different levels of concentration of their own groups and with different levels of deprivation. Most existing studies of ethnic segregation ignore the fact that the majority of adults live in couples. In recent years there has been a growth in the number of mixed ethnic families that involve a minority member and a white member (Feng et al, 2010). However, to our knowledge, almost no research has been undertaken to explicitly examine whether the ethnic mix within households has an impact on tendencies of residential migration between different types of neighbourhood. In the US, a few studies which examined the residential locations (but not mobility) of ethnic populations, have taken the ethnic mix within households into account. Ellis *et al.* (2006) used cross-sectional data in the US and came to the conclusion that mixed-ethnic households are less likely to live in minority ethnic neighbourhoods. White and Sassler (2000) also used US census data and found that Latinos and blacks who married a white spouse were more likely to reside in higher status neighbourhoods, while in contrast the marriage of a white person to a non-white person seemed to result in them residing in a lower-status neighbourhood than they might otherwise have done. Although Ellis et al (2006) argued that their results are more likely due to mixed-ethnic couples choosing to live in mixed-ethnic neighbourhoods, rather than mixed neighbourhoods 'creating' these couples, it is difficult with cross-sectional data to come to any firm conclusion about this. The same is true for the study by White and Sassler (2000) due to the use of cross-sectional data. In their review of geographies of mixed ethnic unions, Wright et al (2003) called for further research on migration of mixed ethnic unions in a longitudinal perspective.

With this study we fill this gap, and use longitudinal data from the Office for National Statistics Longitudinal Study (ONS LS), to explore whether minority people in mixed ethnic unions were more likely to move to areas which are less concentrated in their own group than ethnic minorities living in mono ethnic unions. In our analyses we also take the level of deprivation of neighbourhoods into account.

## THEORETICAL BACKGROUND

Spatial assimilation theory asserts that ethnic minority people usually settle in an ethnic enclave when they enter the host country as immigrants. Over time they improve their language skills, adopt local customs, accumulate human and social

capital, move up the socio-economic ladder and convert their endowment into improved residential opportunities. This usually involves migration out of the ethnic enclave and into neighbourhoods which are characterised by less concentration of minority populations and by higher social status (Ellis et al 2006).

Although the overall level of segregation of British ethnic minority populations is dropping, they are still shown to be segregated from the majority white population. Concerns have been raised that this segregation is partly caused by self-selected segregation whereby people choose to live with others of the same cultural or ethnic group (Clark 1992; Finney and Simpson 2009a; Simon 2010). British studies have focused on the extent of geographical segregation for different ethnic minority groups while a few studies have also explored how these patterns have changed over time (Champion 1996; Johnston et al 2006; Phillips 1998; Sabater 2010). Recent research at the district level has revealed that both white and non-white groups have exhibited counterurbanisation, particularly from London to other cities, and dispersal has happened away from traditional areas of settlement (Finney and Simpson 2009b; Stillwell et al 2008).

Simon (2010) focused on whether ethnic populations tend to move to areas with a high concentration of their own group in Britain. Using a specially commissioned 2001 census table, she concluded that ethnic minorities were more likely to move away from areas with a high concentration of their own group and into areas with a low concentration. This finding challenges the assertion that minority people tend to self-select into ethnic concentration areas. Stillwell (2010) also used British aggregate census data to explore the propensity of migration among ethnic groups in London. He found that most people from ethnic minority groups tend to move to wards with a lower proportion of those in the same ethnic group. There is also a tendency for all ethnic groups to move away from more deprived areas to less deprived areas within London.

Most of the literature on the migration patterns of ethnic minorities focuses on individuals and not on households. However, residential choice is usually a collective decision in which all household members play a role (Clark and Dieleman, 1996; Coulter et al., 2012). Most studies do consider determinants such as household size, family type and income in the analysis of residential migration (Holloway et al 2005; Ellis et al 2006), but studies rarely take into account the ethnic mix within the household. Only recently a few studies have focussed on the question whether ethnic mix within the household has an impact on residential choice (Ellis et al 2006; White and Sassler 2000).

In the past decades Britain has witnessed a growing ethnic diversity in populations. In England, for example, the percentage of ethnic minorities has risen from 4.6 % to 8.6 % between 1981 and 2001 (Rees and Butt 2004). It is estimated that nearly a million people report themselves as having a mixed-ethnic identity in Britain today (CRE 2006). Along with the trend in diversity the number of marriages and partnerships between people of different ethnic groups is also on the rise (Aspinal 2003; Coleman 1985; 2004; Voas 2009; Song 2010). The one per cent census sample from the Office for National Statistics (ONS) Longitudinal Study (LS) reveals that the total number of mixed ethnic unions reached 5,139 in 2001 in England and Wales, a 46 Per cent increase from 1991 (Feng et al. 2010).

Unions across ethnic lines are generally viewed as an indicator of primary assimilation (Gordon 1964; Alba 1995; Kalmijn 1998). Theories of intermarriage suggest that minorities who are best assimilated are more likely to out-partner the majority group. Empirical studies revealed that minority individuals in mixed ethnic

unions were overrepresented among those better educated or in higher social classes, particularly for South Asians or Other Asians (Berrington 1996; Feng et al 2010). However, Black people in mixed ethnic unions were more likely to be of a lower social class or with lower qualifications.

Ethnic minority people in mixed-ethnic unions may take advantage of the social network of their partners from the majority white group to achieve upward social mobility. Recent studies have shown that ethnic minority individuals in mixed ethnic unions have a higher propensity of moving upward in terms of their income and socio-economic positions (Meng & Meus 2006; Muttarak 2007). Whether ethnic minority people who are in mixed ethnic unions also achieve better upward mobility geographically is not clear. To our knowledge there is no literature on this subject. We expect mixed ethnic households to be more likely to move away from minority enclaves to higher-status neighbourhoods than ethnic minority households.

People have preferences and aspirations on where to live and various aspects of place affect their mobility (Van Ham and Feijten 2008). Places can be 'racialised' and this contributes to the geographical polarisation of ethnic groups. Delaney (2002) emphasised that geography must be taken seriously in studies of ethnicity and that geography can enrich our understanding of relations between ethnic groups in a racialised world. Some authors have described experiences of being abused due to their multi-ethnic identities in ethnic neighbourhoods, no matter whether they visited predominantly white or predominantly black neighbourhoods (Mura 1998; Hongo 1998). Dalmage (2000, 95) showed that black-white mixed-race families favour racially mixed neighbourhoods because they feel safer there. Ethnic background of the partner is also relevant in discriminatory housing markets where minority couples or mixed ethnic couples are more likely to be refused to purchase a property in a white neighbourhood (White and Sassler 2000). Minority people in mixed ethnic unions tend to keep their social network with their own groups (Benson 1981). Family ties are important factor in influencing mobility (Zorlu 2009). Therefore, they may prefer neighbourhoods where there is a mixture of both the majority and minority groups.

## **DATA AND METHODS**

To investigate the mobility behaviour of minority people in mixed ethnic unions we used data from the Office for National Statistics Longitudinal Study (ONS-LS), which is a nationally representative 1 percent sample of the England and Wales population including approximately 500,000 people. The study includes linked information from the 1971, 1981, 1991 and 2001 censuses. The sample was updated through intercensal births, deaths, immigrations, embarkations and re-entries. Apart from census data, information is linked from the National Cancer Register, births to sample mothers and enlistments from the Armed Forces. The study was designed as a continuous, multi-cohort study with samples drawn from subsequent Censuses using the same selection criteria. Data on the household members of ONS-LS members are also part of the dataset, although these individuals are not followed through time. In addition to the individual-level micro data, the ONS-LS contain some variables from the censuses which capture the characteristics of the areas in which each sample member resided. Since the data is geocoded, it is possible to attach additional geographical variables – such as mixed ethnic neighbourhood indicators – to individual ONS-LS members.

The ethnicity question was first introduced in the 1991 census. However, the 2001 census question on ethnicity was altered to include new categories for people who reported ‘mixed-ethnicity’. We have explored the possibility to construct a classification that will allow similar ethnic groups to be identified in both 1991 and 2001 with reference to previous studies (Platt *et al*, 2005, Bradford 2006). We decided to adopt a broad classification and aggregate ethnic groups into five groups: White, Black, South Asian, Other Asian, and Other (see Table 1). In our analyses we excluded the Other group as this is a quite heterogeneous group with very small numbers.

**Table 1 about here**

Between 1991 and 2001 some individuals have changed the way they categorised their ethnicity. Such a change is most likely to occur for members of mixed-ethnic groups and Black groups. In this analysis, we used the 2001 variable to establish the ethnicity for each LS member. In the 2001 census 2.9 percent of responses to the ethnicity question were imputed, falling to 2.1 percent among LS members who were linked between 1991 and 2001 (Platt *et al*, 2005). Imputation appears to be more common among those belonging to minority groups. Unfortunately the imputation is not very reliable and therefore we decided to restrict our sample to those LS members whose ethnicity was not imputed.

We chose wards, with a population of 6,000, as the relevant geographies to represent large neighbourhoods. Our classification of ethnic neighbourhoods is ethnic group specific, and based on percentages of own group in an area. So for Black people, the classification is based on the percentage of Black population in wards. Cut-off points of proportions for the Black group are chosen so that the Black population is distributed 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 1991 and Table 3 for 2001.

**Table 2 about here**

**Table 3 about here**

We adopted the Carstairs deprivation index as a measure of ward level deprivation. This is a census based indicator using four variables including male unemployment, over-crowding, car ownership and lower social class (Carstairs and Morris, 1991). We used the quintile groups which classifies all wards into five groups with equal populations. We selected LS members who were aged 16 and over in 1991 and living with an opposite-sex married or cohabiting partner and who were present in the 2001 census. The sample includes 1,191 Blacks, 5,611 South Asians, and 803 Other Asians.

## **RESULTS**

We firstly describe the pattern of out-partnering for ethnic minority groups in 1991. Table 4 shows percentages of ethnic minority members who lived with a white partner in 1991. Black men were the group with the highest out-partnering rate at 31%, while South Asian women had the lowest rate at 2.6%. The out-partnering rate



decreased with age for Blacks and Other Asians but for South Asians the highest rate occurred for those who were in the 45 years old and over group. Ethnic minority members born in the UK had a much higher rate of living with a white partner than their peers born outside the UK. South Asians and Other Asians with a degree had higher out-partnering rates than those without a degree, for Blacks the reverse is true. Minority people who were cohabiting in 1991 were more likely to have a white partner than those who were married. For South Asians and Other Asians it was people in the higher social classes (professional and managerial) who had the highest out-partnering rates, and in contrast, for Blacks it was people in the lower social classes who had the highest out-partnering rates. An important conclusion from Table 4 is that there are large differences between ethnic groups in the propensity to be in a mixed ethnic union.

#### **Table 4 about here**

Table 5 shows the distribution of minority LS members in different types of residential neighbourhoods according to the concentration of their own group. We can see that for minority members in co-ethnic partnerships the proportion of LS members increased with the concentration of their own group in 1991. In contrast, we find the opposite for minority members in mixed ethnic unions: for minority members in mixed-ethnic partnerships the proportion of LS members decreased with the concentration of their own group in 1991. For both groups the pattern in 2010 was similar than in 1991. The patterns shown in Table 5 confirm what was found by Ellis et al (2005), who showed for the US that mixed ethnic couples were more likely to reside in areas with a higher proportion of the white population.

Table 6 provides proportions of minority LS members by different types of residential neighbourhoods according to deprivation measured by the Carstairs deprivation index. We can see that minority people in co-ethnic partnerships, are very likely to live in the most deprived neighbourhoods (true for all three ethnic groups). In contrast, minority people in mixed ethnic unions with whites are more likely to live in less deprived areas. Again, the pattern in 2001 was almost identical to that in 1991. The result supports the findings reported in the U.S. by White and Sessler (2000) where minority people who partnered white people were overrepresented in high status neighbourhoods.

#### **Table 5 about here**

#### **Table 6 about here**

In order to analyse migration neighbourhood (ward) characterised by own group ethnic concentration, we compared the 1991 neighbourhood type with the 2001 neighbourhood type. Based on this we constructed a variable indicating movement status between 1991 and 2001. If the LS member did not move between 1991 and 2001 or the LS member moved between similar types of neighbourhoods, movement status was coded as 0. If the LS member moved to a ward with a higher own group concentration, movement status was coded as 1. If the LS member moved to a ward with a lower own group concentration, movement status was coded as 2. In total, about a third of the minority people moved out of their original residence to a new residence between 1991 and 2001. However, only 5% of them moved to a neighbourhood with a different degree of own group concentration.

Multinomial logistic regression models were used to estimate probabilities of moving into less concentrated areas and moving into more concentrated areas in comparison to staying in the same area or moving within the same type of area. We controlled for gender, age, country of birth, marital status, educational qualifications, social class, number of children, housing tenure and region in 1991. Table 7 presents the results from multinomial logit regressions for three ethnic groups. For each group, the first column shows the parameter estimates referring to the log odds ratio of moving into more ethnically concentrated areas and the second column presents the parameter estimates referring to the log odds ratios of moving into less ethnically concentrated areas.

The variable of main interest identifies those in co- and mixed-ethnic unions. The largest effects seen are the much lower propensity of South Asians or Other Asians in mixed ethnic couples, compared to co-ethnic couples, to move into areas with a high concentration of their own ethnic group. This is not the case for blacks where there is a slightly greater, but not significant, propensity for such moves in mixed ethnic couples. There is no evidence that mixed-ethnic couples are more or less likely than co-ethnic couples to move into less concentrated areas

Before we look at these results in more detail, we first discuss the effects of the control variables on the probability to move to more concentrated areas. The control variables show that there is no gender effect on the probability of moving to more concentrated areas. For South Asians, younger people appeared to be more likely to move to more concentrated areas while older people were less likely to move into more concentrated neighbourhoods. For Blacks the pattern was the same as that for South Asians but only significant at the 10% level. Country of birth only had an effect on the probability to move to more concentrated areas for Other Asians who showed a lower propensity to move into more concentrated areas when they were born outside the UK. Marital status did not have any significant effects on mobility. Education was only significant for South Asians who appeared to be less likely to move into more concentrated areas when having a degree. There are some scattered effects of social class and region on mobility. Notable are the effects of housing tenure. Compared to owners, Blacks and South Asians who rent are more likely to end up in more concentrated areas. For Other Asians this is only the case when they are private renters.

With regard to moving to less concentrated areas we find that South Asian women were less likely to move to less concentrated areas than South Asian men. Age again appeared to be an important factor. Younger people were more likely to move into less concentrated area while older people were less likely to move into less concentrated neighbourhoods. There was no effect of country of birth and marital stats. The education effect showed that Black people with a degree were more likely to move into less concentrated neighbourhoods than those without a degree. South Asians with 2 or more children were less likely to move into less concentrated areas. Black people in social class I and II, IIIN, and unknown, South Asians in social class I and II had a higher propensity of moving into less concentrated areas. There are no notable effects of housing tenure and region of residence.

#### Table 7 about here

To facilitate the interpretation of the effects of being in a mixed ethnic union on mobility, we calculated relative risks. The relative risk is the ratio of the probability of moving into less concentrated areas and the probability of moving into more

concentrated areas. Therefore, if the relative risk is equal to one it indicates that the probability of moving into less concentrated areas is equal to the probability of moving into more concentrated areas. A value above one indicates a higher risk of moving into less concentrated areas while a value below one indicates otherwise. Figure 1 presents the adjusted relative risks of moving into a less concentrated area over moving into more concentrated areas. South Asians and Other Asians both had higher propensities to move into less concentrated areas, whereas the propensities for Blacks were not markedly different from unity (1.02 for co ethnic unions and 1.08 for mixed ethnic unions). 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 1 about here**

We used a similar method to analyse the probability of moving into less and more deprived areas. For this purpose we compared the level of deprivation of the ward where each ethnic minority member lived in 1991 and 2001. We identified three types of outcomes as our dependent variable: did not move or moved within the same type of area; moved into a less deprived area; and moved into a more deprived area. About 12%, 11% and 18% of respectively Blacks, South Asians and Other Asians moved to a neighbourhood with a different level of deprivation. Again we used multinomial regression to estimate the probability of moving into different types of neighbourhood controlling for age, country of birth, social class, education level, housing tenure, number of children and region.

We found that only Black people who were in mixed ethnic unions with a white partner exhibited a higher propensity to move into both more and less deprived areas compared with their peers in co-ethnic unions. There were no significant effects for the other ethnic groups. We now briefly describe the effects of the control variables. There is no notable effect of gender on the probability to move into less deprived areas. Age appeared to be an important factor. Younger people are more likely to move into less deprived areas while older people aged over 45 were less likely to move into less deprived areas. First generation Other Asians were less likely to move into less deprived areas while there are no significant effects for Black and South Asian people who were born abroad compared to those born in the UK. Cohabiting blacks are more likely to move into less deprived areas than married blacks. And Blacks and Other Asians with a higher qualification were more likely to move to less deprived areas than those without a degree. South Asians who had 2 or more children seemed to be less inclined to move to less deprived areas in compared to those without children. Black and South Asians in professional and managerial, skilled non-manual and skilled manual occupations were more likely to move to less deprived areas.

The parameters for the probability of moving to more deprived areas show that younger people were more likely to move to more deprived areas and older people were less likely to move to more deprived areas. There are no significant effects of gender, country of birth, marital status, and qualifications. South Asians and Other Asians with 3 or more children were less likely to move to more deprived areas. Interestingly South Asians in professional or managerial occupations, and skilled non-manual occupations were more likely to move into more deprived areas. People in private renting also showed a higher propensity to move into more deprived areas.

### Table 8 about here

Again we calculated relative risks of moving into less deprived areas over moving into more deprived areas. Figure 2 shows that all ethnic minority people were more likely to move into less deprived areas than to move 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, Blacks and Other Asians in mixed ethnic unions, were slightly less likely to move into less deprived areas than those in co-ethnic unions.

### Fig 2 about here

## CONCLUSIONS

Theories of spatial assimilation describe a progressive process where over time ethnic minority populations move into the neighbourhoods where majority white populations dominate historically. There is little longitudinal research which has directly examined the patterns and determinants of ethnic minority migration into different types of neighbourhoods measured by ethnic mix or by deprivation. And there is almost no research which investigates whether the ethnic mix *within* households has an impact on the migration propensity of ethnic minorities. In this paper we used 1991 and 2001 ONS LS data to explore whether minority people who partnered a white individual displayed different migration propensities in comparison with their peers who were in co-ethnic unions.

Using longitudinal data we found that the tendencies of moving into different types of areas vary between different ethnic groups and different partnership types. Black people did not show a different propensities of moving to black concentration neighbourhoods, depending on whether they lived with a Black partner or a White partner. While South Asians and Other Asians had higher risks of moving into low concentration neighbourhoods if they were in co-ethnic unions. Especially South Asians and Other Asians who partnered a white partner exhibited a much higher probability of moving into less concentrated areas over moving to more concentrated areas. With regard to the level of deprivation of destination neighbourhoods we found that all ethnic minority individuals were more likely to move into more affluent neighbourhoods, regardless of whether their partner was white or co-ethnic. Our study supports the spatial assimilation theory; ethnic minorities disperse towards less deprived areas and to less ethnically concentrated areas. However, whether minority people in mixed ethnic unions were more likely to leave ethnic concentration areas varies between ethnic groups.

In our descriptive analyses we found that in 1991 minority people who were in mixed ethnic unions with white people were overrepresented in areas with a lower concentration of their own group and overrepresented in areas with a lower degree of deprivation in comparison with their peers in co-ethnic unions. These findings are in line with previous studies from the US (Ellis et al 2005; White and Sassler, 2000) which argued that it is more likely that these mixed unions moved to these lower concentration areas than that they formed there. However, using cross-sectional data it was impossible to separate the different processes. Using longitudinal data we found that South Asians in mixed ethnic unions do show a higher risk of moving into neighbourhoods with a lower level of concentration of their own group while Blacks

in mixed ethnic unions did not show an elevated risk. In a separate study we found that Blacks who lived in an area with a lower level of concentration of their own group exhibited a higher propensity of out-partnering with white people (Feng et al 2010). Therefore from these two findings we would argue that the residential pattern identified by Ellis et al (2006) for the US was not necessarily a result of migration preference for minority people in mixed ethnic unions. For the UK we found that for Blacks the pattern might result largely from the formation process while for South Asians the pattern might result from both formation and migration processes.

The ONS LS was a unique and very rich dataset. However, we acknowledge that the data has some limitations. We did not have information on migration between two censuses. Some couples might move more than once between 1991 and 2001. The British Household Panel Survey (BHPS) is a panel dataset which provides annual information for sample couples. However, the number of mixed ethnic unions in the BHPS is too few for a meaningful statistical analysis. The other limitation is the self-reported ethnicity can change over time. It is not a big problem for South Asians as they reported their ethnic identity very consistently over time. But the consistency was not high for Black Others who were part of the Black group in our analysis (Platt et al 2005). Therefore our results here should be treated with caution.

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**Table 1** 1991 and 2001 census ethnicity definitions

<b>Ethnic group</b>	<b>1991 (ETHNIC9)</b>	<b>2001 (ETHGRP0)</b>
White	White	British Irish Other white
Black	Black-Caribbean Black-African Black other Black & White	Black-Caribbean Black-African Other Black White & Black Caribbean White & Black African
South Asian	Indian Pakistani Bangladeshi	Indian Pakistani Bangladeshi
Other Asian	Chinese Other Asian	Chinese Other Asian
Other	Other ethnic group: non-mixed origin Other ethnic group: mixed origin	White & Asian Other mixed Other ethnic group

Source: ONS LS

**Table 2** Classification of 1991 wards by level of concentration

	%Min	%Max	N of wards	Black
Low concentration	0	5.1	9027	293,723
medium concentration	5.2	15.3	348	294,933
high concentration	15.4	46.6	134	291,692
	%Min	%Max	N of wards	South Asian
Low concentration	0	8.2	9070	481,595
medium concentration	8.3	27.4	340	481,898
high concentration	27.5	78.7	99	479,766
	%Min	%Max	N of wards	Other Asian
Low concentration	0	0.9	8360	111,695
medium concentration	1.0	2.7	845	111,926
high concentration	2.8	12.2	304	111,430

Source: 1991 census Small Area Statistics

**Table 3** Classification of 2001 wards by level of concentration

	%Min	%max	N of wards	Black
Low concentration	0.0	6.2	8294	485331
medium concentration	6.2	20.0	371	482524
high concentration	20.1	57.6	135	483847
	%Min	%max	N of wards	South Asian
Low concentration	0.0	9.1	8326	677000
medium concentration	9.1	32.9	363	676724
high concentration	32.9	76.2	111	674694
	%Min	%max	N of wards	Other Asian
Low concentration	0.0	1.2	7709	154897
medium concentration	1.2	3.1	811	154938
high concentration	3.1	13.2	280	154821

*Source:* 2001 Census Area Statistics

**Table 4** Percentage of ethnic minorities living with a white partner by ethnic group

Variable	Category	Black		South Asian		Other Asian	
		%	total	%	total	%	total
Gender	Males	31.2	638	4.8	2921	21.9	433
	Females	22.4	553	2.6	2690	22.4	370
Age	16-34	37.8	365	3.5	1985	26.1	238
	35-49	27.1	284	3.4	1894	22.1	303
	50+	19.9	542	4.6	1732	18.7	262
Country of birth	Outside the UK	17.2	884	3.2	5326	20.8	768
	In the UK	55.7	307	14.4	285	51.4	35
Marital status	Married	24.8	1040	3.4	5563	20.3	774
	cohabiting	43.0	151	50.0	48	72.4	29
Qualification	no degree	27.7	1101	3.0	5170	19.7	665
	degree	20.0	90	12.5	441	34.1	138
Social class	I&II	24.4	295	10.2	1138	35.6	275
	IIIN	27.2	158	5.4	722	24.0	154
	IIIM	28.2	241	2.6	859	11.1	108
	IV&V	28.3	315	1.4	1313	16.7	96
	NOT STATED	28.0	182	1.0	1579	8.8	170

*Source:* ONS LS, Authors' calculations

**Table 5** Proportion of minority LS members living different types of neighbourhoods according to own ethnic concentration in 1991 and 2001

Union type	Concentration	1991			2001		
		Black	South Asian	Other Asian	Black	South Asian	Other Asian
Co-ethnic	Low	21.2	31.6	26.8	20.9	31.5	26.4
	Medium	37.5	34.0	36.1	37.3	34.0	35.4
	High	41.3	34.3	37.2	41.8	34.5	38.1
Mixed	Low	65.6	78.3	56.2	66.9	82.1	57.3
	Medium	23.2	15.6	24.2	23.8	14.6	26.4
	High	11.1	6.1	19.7	9.3	3.3	16.3

Source: ONS LS, Authors' calculations

**Table 6** Proportion of minority LS members living different types of neighbourhoods according to deprivation in 1991 and 2001

		1991			2001		
		Black	South Asian	Other Asian	Black	South Asian	Other Asian
Co-ethnic	1-least deprived	4.1	6.5	13.6	5.2	6.4	14.0
	2	4.8	8.2	14.9	7.3	8.9	16.2
	3	15.0	12.2	15.8	10.5	12.5	16.1
	4	24.9	19.7	23.0	20.3	18.5	21.5
	5-most deprived	51.2	53.4	32.6	56.8	53.7	32.3
Mixed	1-least deprived	15.8	22.6	23.6	13.6	26.4	31.5
	2	11.1	18.4	21.9	14.2	18.4	18.5
	3	18.6	17.9	20.2	21.7	17.0	20.2
	4	22.9	23.1	18.5	23.8	22.2	14.6
	5-most deprived	31.6	17.9	15.7	26.6	16.0	15.2

Source: ONS LS, Authors' calculations

**Table 7** Coefficients (log-odds of moving) estimated from multinomial logit regression on whether people were more likely to move into neighbourhoods of lower or higher concentration compared to not moving or staying in a neighbourhood of the same concentration

Variable	Category	Black		South Asian		Other Asian	
		More concentrated (N=61)	Less concentrated (N=83)	More concentrated (N=296)	Less concentrated (N=437)	More concentrated (N=52)	Less concentrated (N=71)
Union type	Co-ethnic <sup>b</sup>						
	Mixed	0.246	0.336	-1.163**	-0.224	-1.282**	-0.413
Gender	Male <sup>b</sup>						
	Female	0.168	-0.197	-0.145	-0.403***	-0.408	-0.058
Age	16-34	0.688*	1.191***	0.640***	0.723***	0.361	0.717**
	35-44 <sup>b</sup>						
	45+	-0.752*	-0.689*	-0.604***	-0.563***	-0.540	-0.658*
Country of birth	In UK <sup>b</sup>						
	Born outside UK	0.612	0.298	-0.235	-0.184	-1.380**	-0.609
Marital status	Married <sup>b</sup>						
	Cohabiting	0.322	0.368	0.295	-0.036	1.169	-0.094
Qualification	No degree <sup>b</sup>						
	Degree	0.030	0.766**	-0.623**	0.090	0.318	0.570
Number of children	0 <sup>b</sup>						
	1	-0.366	-0.030	0.073	-0.268	0.737	-0.146
	2	-0.382	-0.264	-0.338*	-0.310**	0.456	-0.133
	3+	-0.357	-0.158	-0.651***	-0.409***	-0.129	-1.043**
Social class	I&II	0.259	0.792*	0.424**	0.327*	0.232	-0.672
	IIIN	0.072	0.963**	0.149	0.280	-0.026	-0.430
	IIIM	-0.070	0.567	0.013	0.273	0.349	-0.234
	IV <sup>b</sup>						
	Not stated	0.329	1.229**	0.011	0.212	0.617	-0.282
Housing tenure	Owned <sup>b</sup>						
	Social	0.637**	0.123	0.860***	0.021	-0.263	0.128
	Private	0.728	-0.160	0.776***	0.450*	1.067**	0.838
Region	North East/Yorkshire and Humber <sup>b</sup>						
	North	1.551	0.332	0.342	0.265	0.828	0.882
	West/Wales						
	Midlands	0.694	0.342	-0.021	0.437**	0.510	0.777
	South	0.759	-0.345	-0.115	-0.219	0.047	0.212
	London	1.521	0.439	0.365	0.131	-0.484	0.876
Constant		-4.850	-4.132	-2.704	-2.371	-1.681	-1.856

\* 10% \*\* 5% \*\*\* 1% significant level

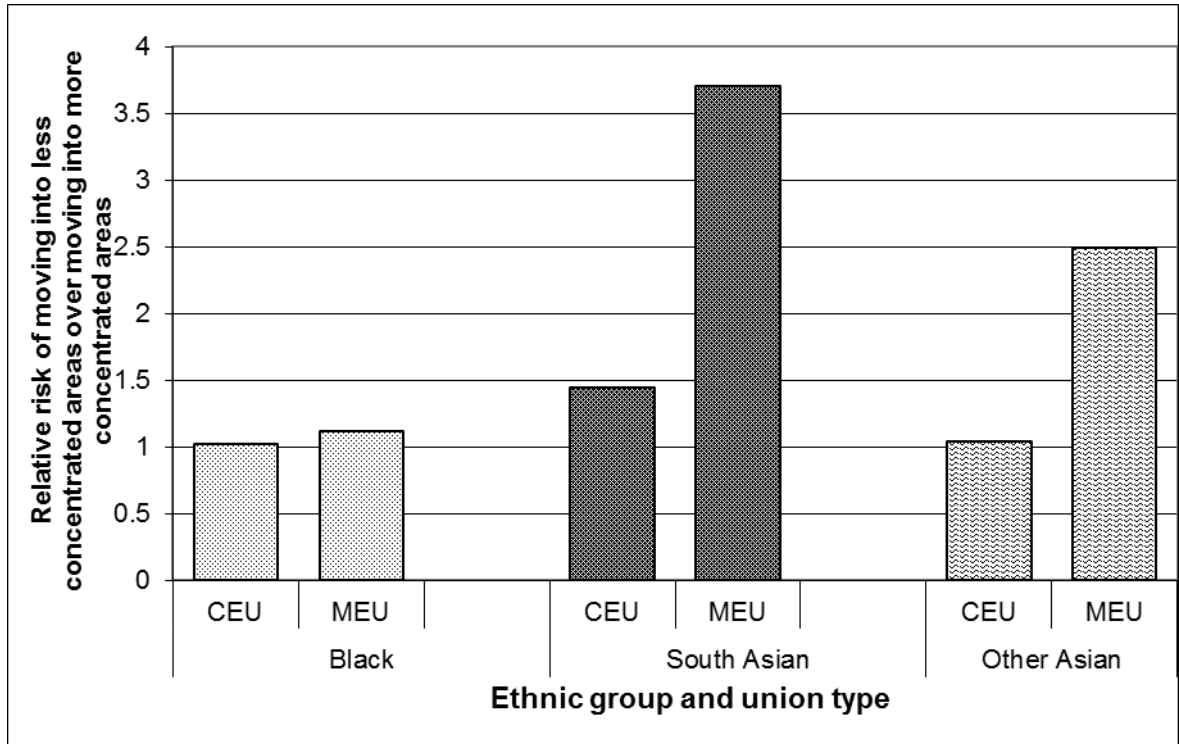
<sup>b</sup> reference category

**Table 8** Coefficient estimates from multinomial logit regression on probability of moving into less deprived and into more deprived neighbourhoods

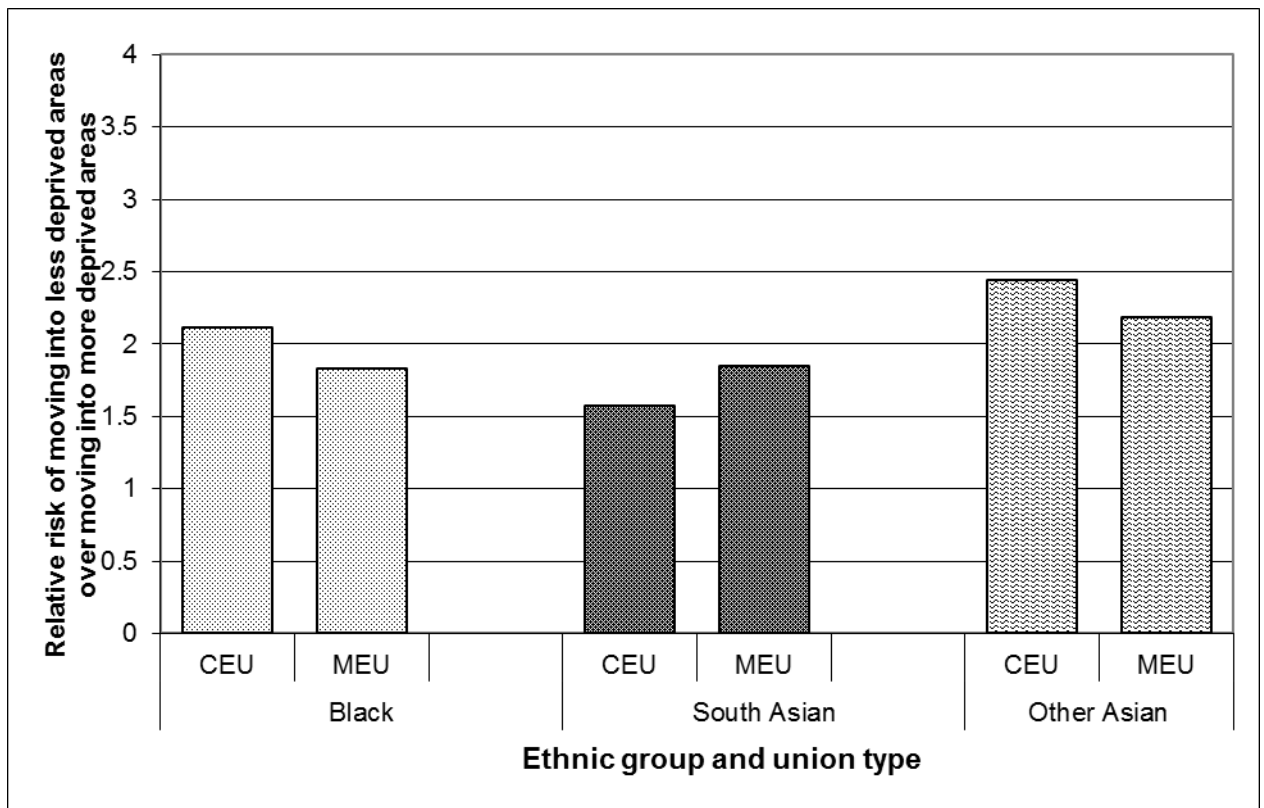
Variable	Category	Black		South Asian		Other Asian	
		Less deprived (n=143)	More deprived (n=88)	Less deprived (n=621)	More deprived (n=327)	Less deprived (n=145)	More deprived (n=71)
Union type	Co-ethnic <sup>b</sup>						
	Mixed ethnic	0.383*	0.525**	0.299	0.140	-0.163	-0.053
Gender	Male <sup>b</sup>						
	Female	-0.336	-0.090	-0.079	-0.135	-0.381*	-0.180
Age	16-34	0.365	0.622*	0.745***	0.272**	0.571**	0.481
	35-44 <sup>b</sup>						
	45+	-1.261***	-0.660*	-0.568***	-0.545***	-1.288***	-0.320
Country of Birth	Born in UK <sup>b</sup>						
	Born outside UK	0.066	-0.394	-0.062	0.002	-0.904**	0.937
Marital status	Married <sup>b</sup>						
	Cohabiting	0.624**	-0.060	-0.035	0.114	0.295	-0.298
Qualification	No degree <sup>b</sup>						
	Degree	0.695**	0.205	0.247	-0.170	0.528*	-0.298
Number of children	0 <sup>b</sup>						
	1	-0.091	-0.141	-0.109	-0.155	-0.222	0.201
	2	-0.249	-0.381	-0.444***	-0.238	-0.392	-0.458
	3+	-0.426	-0.421	-0.666***	-0.569***	-0.980***	-0.886**
Social Class	I&II	1.399***	0.304	0.672***	0.865***	-0.250	0.393
	IIIN	1.203***	-0.336	0.625***	0.495**	0.242	0.418
	IIIM	0.958***	-0.146	0.314**	-0.136	0.184	-0.024
	IV&V <sup>b</sup>						
	Not stated	1.136***	0.610*	-0.014	0.032	0.297	0.308
Housing tenure	Owned <sup>b</sup>						
	Social	-0.187	0.044	-0.030	0.101	-0.979**	-0.224
	Private	0.528	1.474***	0.488**	1.070***	0.563	1.120**
Region	North East /Yorkshire <sup>b</sup>						
	North West / Wales	-0.107	0.449	0.340	0.536	0.376	0.557
	Midlands	-0.507	0.764	0.343*	0.198	-0.084	0.274
	South	-0.239	1.074	0.346*	0.855***	-0.163	0.492
	London	-0.677*	1.232	0.052	0.673**	-0.268	-0.093
Constant		-2.202	-3.326	-2.309	-3.130	0.149	-3.227

\* 10% \*\* 5% \*\*\* 1% significant level

<sup>b</sup> reference category



**Figure 1** Relative risks of moving into less concentrated areas compared to moving into more concentrated areas, adjusted for factors in Table 7 (CEU: co-ethnic unions; MEU: mixed ethnic unions)



**Figure 2** Relative risk of moving into less deprived areas compared to moving into more deprived areas, adjusted for factors in Table 8 (CEU: co-ethnic unions; MEU: mixed ethnic unions)