

Statistics of racial segregation: measures, evidence and policy

Occasional Paper No. 24

Ludi Simpson, CCSR

Acknowledgements

This work was supported by ESRC award R000271214. Discussions at Bradford Resource Centre, Bradford Council, University of Manchester, and Royal Statistical Society groups in Leeds and Birmingham were helpful in its development.

Statistics of racial segregation: measures, evidence and policy

Ludi Simpson

Centre for Census and Survey Research, University of Manchester, Manchester M13 9PL, UK

Abstract

Subsequent to riots in UK northern cities, claims of self-segregation and polarised communities are examined with data unique to the city of Bradford. Statistics relating to race often reinforce misleading stereotypes that are unhelpful to the development of appropriate social policy. Previous studies of indices of segregation are shown to be inadequate through lack of consideration of change over time and the confounding of population change with migration. The separation of natural change and migration supports survey evidence that dispersal of South Asian populations has taken place at the same time as absolute and relative growth. Social policy will do well to take on board these demographic facts in a positive inclusive approach to all residents in all areas.

Submitted to Urban Studies, February 2003

1. Introduction

Riots rocked three northern English towns in 2001. Each severe disturbance was provoked by an intervention from small fascist groups in an area of depressed social conditions, but developed into violent clashes between mainly Asian youth and the police. The official response focused on racial segregation as a long-term cause of disorder and posed solutions in terms of greater effort on the parts of communities and state intervention to win cross-racial contact and social integration as the solution (Ouseley 2001; Cantle 2001; Denham 2001). The claimed existence of

communities living parallel lives was seen as a failure both of communities and of social policy, citing 'self-segregation' as a contributory factor. This paper critically employs measures of segregation and migration in order to examine that claim and its implications.

The language used was strong and clear:

We have focused on the very worrying drift towards self-segregation, the necessity of arresting and reversing this process... The Bradford District has witnessed growing division among its population along race, ethnic, religious and social class lines – and now finds itself in the grip of fear. (Ouseley, 2001: Foreword)

The team was particularly struck by the depth of polarisation of our towns and cities. The extent to which physical divisions were compounded by so many other aspects of our daily lives, was very evident. Separate educational arrangements, community and voluntary bodies, employment, places of worship, language, social and cultural networks means that many communities operate on the basis of parallel lives. These lives often do not seem to touch at any point, let alone overlap and promote meaningful exchanges. (Cantle, 2001: 9)

There is no doubt that settlement patterns at any point in time can be described numerically as racially segregated. Populations categorised by race or ethnic group are found to be very far from equally or randomly distributed. However, in Europe race categories for the most part distinguish those who are descended from immigrants in the past fifty years, who were attracted to Europe for economic reasons or repelled from their own country for political and military reasons. They are naturally concentrated in particular areas of original settlement. In northern England, Pakistani and Bangladeshi migrants are concentrated in those districts with textile industries that had expanded their labour requirements to enable 24-hour production in response to overseas competition after the Second World War. Immigrants filled the unpopular night shift. Within those districts they are located in areas of cheapest private housing as has been available to immigrants for several centuries. Mutual support between those with similar language, cultural and religious traditions, which are not well served by indigenous religious and secular networks, led naturally to very local concentrations. UK laws restrict immigration to family members, and this continues particularly from Pakistan and Bangladesh. The first residence of new family

immigrants is most likely to be within the existing settlement areas of those with similar origins. The South Asian population of Britain has grown from 1.1m to 2.0m between 1981 and 2000; they have naturally grown also as a proportion of the population within the main areas of settlement.

Social policy therefore must address the dynamics of residential location and relocation, rather than simply the existence of segregation at any one point in time. This paper examines the evidence to judge the claims of residential self-segregation. However, since the disturbances of 2001 were not racial riots but were directed towards authority, the police, the focus on a racial interpretation of geography may itself reinforce and contribute to divisive sectarian policy (Anderson and Shuttleworth 1998 make the same point in the context of Irish social policy). Therefore the paper begins by considering the nature and purpose of racial statistics in general. Current measures of racial segregation are then examined, to clarify how they can best be interpreted and developed. A detailed example is developed for Bradford, one of the English cities affected in 2001 that also has an exceptionally detailed time series of population statistics with a racial dimension. The example serves as a warning against simplistic interpretations of data from the 2001 census that are currently being released, and an example of how extra data can helpfully inform those analyses. The discussion draws implications for social policy and for use of census and other data in the examination of social segregation.

‘Race’ and statistics

The essence of racism is an assumption that people act on the basis of their measured ‘race’ or ‘ethnic group’. Such an assumption leads to social policy differentiated by ethnic group. It is an assumption that cannot be sustained scientifically. Measured ‘race’ and ethnic group have no biological basis and cannot be seen as themselves a cause of social change (Zuberi, 2001; King, 1981), although they are used as a proxy for culture, beliefs and behaviour,

Demographic statistics of ‘race’ and ‘ethnic group’ in Britain are usually based on categories from the national Census. Although respondents can choose which category to mark in the census

and in many surveys, this is not a declaration of self-identity because the categories have already been set. The Census categories are chosen to support government legislation against inequality and for equal opportunity. They focus on skin colour – ‘White’, ‘Asian’, ‘Black’, ‘Chinese’ and Mixed in the 2001 Census – and within each of these broad labels on a region of origin: Irish, Pakistani, Indian, Bangladeshi, African, Caribbean. There has been debate on the meaning of these categories (Aspinall, 2000; Berthoud, 1998), and on their function (Anderson and Shuttleworth, 1998; Simpson, 2002a; Zuberi, 2001). The debate continues precisely because the categories are not objective but social in their purpose. Perhaps the clearest indication of the social nature of racial categories is that no set has remained unchanged for long. Those in the 2001 Census differ from the 1991 Census to further differentiate Irish within the White category, and to identify ‘Mixed’ origins. Further differentiation is achieved through a new question on religion.

Official classifications are both responsive to changes in society and influence the way people see themselves. Racial statistics tend to reinforce racial thinking in two ways that are dangerous in the interpretation of all statistics. First, racial categories are invented to represent a proxy for people’s cultural behaviour, but are then claimed to reflect unmeasured underlying ‘real’ characteristics of all members of the group. The categories are ‘reified’, they become more solid and meaningful than is reasonable to assume. At the same time many people adopt the categories as convenient official terminology; others derive power from the racial and religious counts, since official divisions tend to be accompanied by resources (Southworth, 2002). Melissa Nobles writes that “race is not something that language simply describes, it is something that is created through language and institutional practices. As discourse, race creates and organizes human differences in politically consequential ways” (2000: 12). Thus measurement not only identifies existing differences but entrenches divisions. This need not be the case. Explanations of behavioural differences associated with race (dropping the quotes around that term now that its meaning has been clarified) often highlight social trends that move social policy towards a more inclusive attitude to all individuals, such as when religious education becomes multi-faith and when challenge to discriminatory practice results in procedures that are fair to all concerned.

The second danger in statistical analysis of race is that association between racial categories and other characteristics is wrongly taken to imply that the racial identification *causes* the other characteristics. So higher unemployment and higher levels of morbidity and mortality among non-White groups are wrongly interpreted as showing that those groups are less employable, more prone to illness and so on. Statistics are collected from individuals whereas the causes of social patterns are political and social. Average statistics about individuals tend to encourage stereotyping, almost by definition.

Francis Galton, one of the founding fathers of statistics and demography, provides a strong warning example of how *not* to interpret racial statistics. A cousin of Charles Darwin, he built the theory of variation between populations on the belief that “It would be quite practicable to produce a highly gifted race of men by judicious marriages during several consecutive generations” (1869)... “as much superior mentally and morally to the modern European, as the modern European is to the lowest of the Negro races” (1892). Such eugenic views were common motivation for statistical developments up to the mid twentieth century, based on the false premise that intelligence is a genetic feature that can be bred much as horses and dogs are bred for physical prowess. Modern day eugenicists make the same mistaken assumptions about causation (for example Herrnstein and Murray, 1994, and the review of these and other modern eugenicists within Zuberi, 2001).

In the last decade Britain has experienced a rapid growth of racial demography to support government initiatives (Haskey, 2002; SEU, 2000). While many of these statistics may be unjustified and unnecessary, racial statistics should not be avoided. On the contrary they should be used to understand and combat racial injustices, and the racial thinking that informs some social policy. In this paper, racial statistics are used to uncover the truth of settlement patterns in a major northern city of Britain, in the context of claims of residential self-segregation, in order to help to provide peacefully for the needs of all citizens.

Statistics of residential segregation

Statistical investigations have viewed concentrations of non-white populations in a negative light. They have also been fundamentally flawed on technical grounds. They rarely study change over time; they have confused population growth with population distribution; they have falsely compared segregation in different regions; they have not studied migration which should be at the heart of any study of segregation. This section highlights these concerns with previous studies.

Although the claims of segregated Britain became widespread and official in 2001, the issue has been the subject of research for some time, particularly since the 1991 Census gave for the first time a measure of the racial or ethnic group mix in each small area of Britain. Internationally, studies of segregation emerged from the Chicago school in the USA and have seen concentrations of any non-white group as negative. Introducing a review for *Urban Studies* in 1998, Joos Fortuijn and colleagues described the assumptions behind most research:

“Segregation has become a public debate issue. In this debate, segregation has an outspoken negative connotation and is predominantly focused upon the ethnic dimension. The black ghetto in American cities symbolises the cumulation of the miseries of modern Western societies. So far, in European societies, few ghettos can be found... The fear [of ghettoisation] is based on the idea that a sequence of events may happen which is regarded as unwanted. That sequence is: increasing spatial segregation will lead to increasing separation of different social and ethnic classes and population categories; in its turn, that will produce ghetto-like developments and will finally result in the disintegration of urban society.” (p. 367)

The perceived disadvantages of segregated areas derive from empirical association of many concentrations with disadvantage and poverty. To blame that disadvantage on the concentration is erroneously to see association as causation. Why not instead address the disadvantage rather than the concentration, which might be more easily done while the disadvantage is concentrated? Social policy that aims for residential dispersal may simply achieve dispersal of disadvantage, making it less visible but no less real.

On the contrary, there is a positive impact of common culture among those living close to each other, both for their own social support and for the acquisition of skills that allow new immigrants' integration into work, education and other activities provided for all (Dunn, 1998; Peleman, 2002). The advantages of living close to others who can give social solidarity are such that long ago John Rex saw that "Desegregation and dispersal might well be the principal threat to immigrant minority communities" (1981). Indeed this recognition is one reason for the multi-cultural policies that have tended to protect the cultures of Britain's immigrant groups during the past twenty years, accepting and indeed encouraging segregation.

In Britain social geographers Ceri Peach (1996, 1998), Deborah Phillips (1998, 2002) Ron Johnston (Johnston et al., 2002a, 2002b), and Tony Champion (1996) have studied the 1991 census to independently conclude that there are no ghettos in British cities. Ceri Peach compares the index of segregation for 1991, comparing cities and ethnic groups in Britain. For the Caribbean-born in London, he confirms a modest dispersal in over time. As we shall refer to the index of segregation frequently, and use it in this paper, we provide its mathematical definition. For any group the index of segregation (IS) is the summation over all the areas i in a region of the difference between that group g and the rest of the population \bar{g} , in the proportion of the whole region that live in area i .

$$IS = \frac{1}{2} \sum |g_i - \bar{g}|$$

The absolute difference in those proportions are taken, so the measure is symmetrical. The proportions are the number in the area divided by the total number in all areas; it compares the *distribution* of group g within the region with that of the rest of the population. Thus the index of segregation is invariant to the size of group g . The factor of one half is used so that the index always lies between 0 (evenly spread within the whole population) and 1 (complete separation). The value can also be interpreted arithmetically as the proportion of group g (or the rest of the population) that would have to move to a different area in order to achieve complete assimilation. The index is a special case of the index of dissimilarity where the distribution of two groups is compared, replacing \bar{g}_i with h_i .

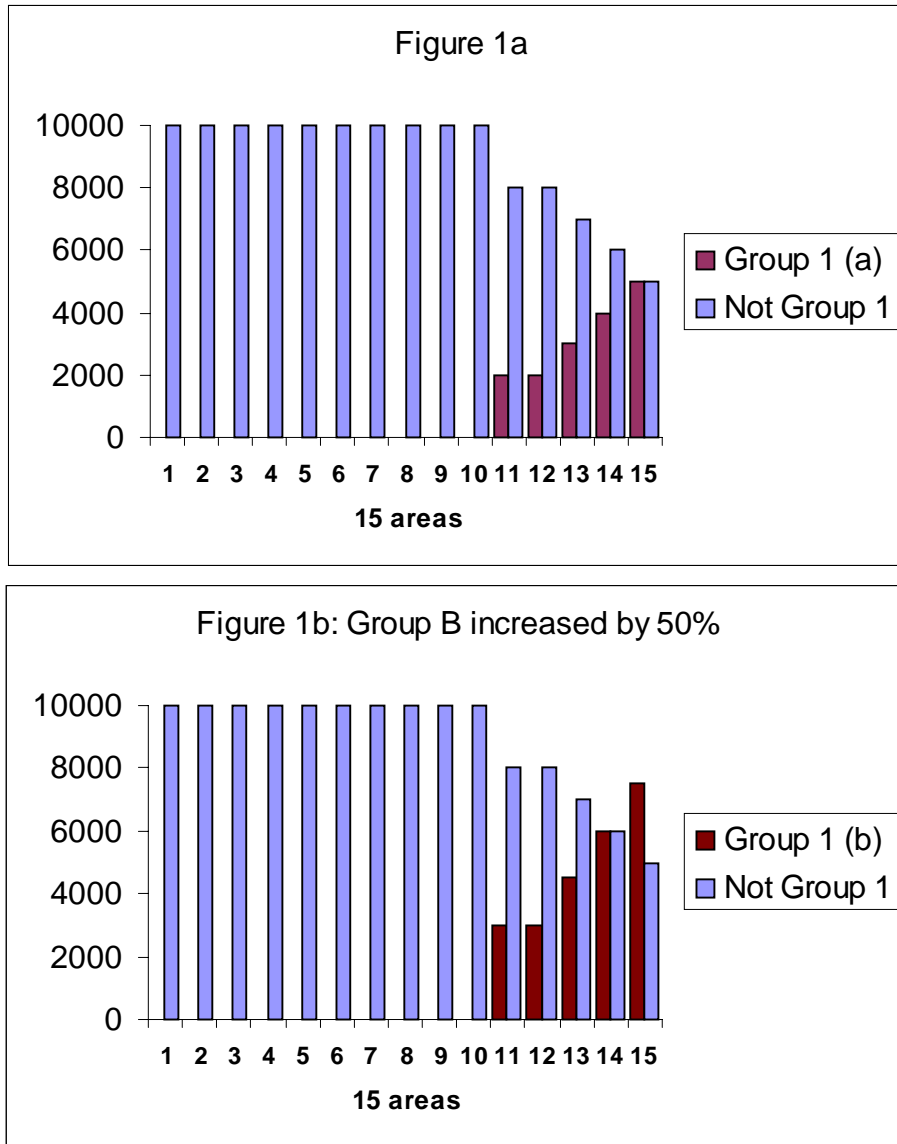
Deborah Phillips explores the 1991 census and subsequent surveys, showing a ‘stubborn’ pattern of segregation, with low levels of dispersal varying between the ethnic group categories. She suggests class and increased income among the mediators for dispersal among the whole population, but finds an increasing lack of affluence in the second generation compared to those born outside the UK, for most non-White groups. Those of Indian origin are most likely to have moved to suburbs outside the main concentrations of populations of recent immigrant origin. Ron Johnston, Michael Poulsen and James Forrest criticise the index of segregation for its inability to show what proportion of a group’s membership live in relatively exclusive areas. They devise a multi-group classification which they claim “has the advantage of being comparable across places and periods” (2002b: 212). Their classification of areas depends on the proportion of each group that lives in each area, as well as the composition of each area. They categorise areas with less than 50% White population into four types: pluralist, mixed-minority, polarised or ghettos. The latter are those areas with not only 60% of the population from one non-White group but where 30% of that group is contained within such areas. David Voas and Paul Williamson (2000) provide a general discussion of measures of segregation, focusing on the index of segregation and its properties when the population of a group is small relative to the number of areas in the region under study. Gorard and Taylor (2002) point out how the index can be modified when individuals change from one group to another as with children’s entitlement to welfare benefits, though this modification is not suitable to the general use of the index as they claim. Tony Champion directly examines the migration within Britain during the year before the 1991 census, from the question on migration in that census, coming closest to the approach taken in this paper. He finds “a deconcentration from most of the major conurbations” (1996: 159).

There are several problems with the measures of concentration and segregation used by these authors, when we go on to consider the claims of self-segregation.

First, Asian self-segregation, like its race-conscious equivalent White flight, is a dynamic process. It implies an increase in segregation over time, and an acknowledgement of the historical processes that bring about the asymmetric population distributions in the first place. Peter Ratcliffe describes three means of assessing change in racial composition from census data,

comparing successive censuses, examining census migration data, and comparing the experience of generations born inside and outside Britain (1996). Johnston regards it as impossible to distinguish between the social trends he sets out to examine without individual and longitudinal data (2002a: 595), although he nonetheless proceeds with cross-sectional aggregate data. Similarly, Peach (1998) provides an excellent account of how structural economic change in Britain resulted in patterns of immigration and location of ethnic groups during the past 60 years, but is still able to claim that Bangladeshis “are concentrated in inner city areas. They manifest extraordinarily high degrees of segregation and encapsulation which isolates them not only from white society, but also from almost every other ethnic minority group” (1998:1676). This claim is in spite of the paper’s evidence that Bangladeshis in their main location in London are more likely to meet other Whites in the streets that they live in than other Bangladeshis, and without consideration of the dispersal of population over time. Thus are legends born. Casting aside the historical evolution of concentrations of one community or another through immigration, family-support, and a hostile environment, and the gradual if slow dispersal of all the communities, a normative zero level of segregation is too frequently implied as the yardstick with which to measure the current geography.

Figure 1: Hypothetical regions of 15 areas with two groups



Second, self-segregation must be distinguished from population growth. Suppose the Muslim population maintains the same spatial distribution but grows by 50% in every area through immigration and births exceeding emigration and deaths. This is the situation reflected in Figure 1(b) if taken as a later snapshot of the same region illustrated in Figure 1(a). The index of segregation in both cases is 0.75, as the distribution of the populations (the g_i in the formula above), even though in each area the numbers of Muslims will be greater in absolute and proportional terms than previously. Johnston et al. (2002b) attempt instead to study the

percentage of a group's population that lives in areas where the group constitutes a large percentage of the whole. The measure is misleading because it is naturally high for larger populations. The authors for example equate the Bangladeshi and Indian concentrations because they are similarly large proportions of the whole population of Indians and Bangladeshis respectively. But those concentrations are more of an 'achievement' for the Bangladeshis given their much smaller population size, which Johnston's papers fail to identify. On their measure the White population is extremely concentrated, a useful reminder of how isolated from other groups are most Whites. Johnston's and other measures of concentration make it impossible to compare the level of segregation over time, because each population is growing at a different rate. In this paper, the index of segregation is used precisely because it is invariant to change in the total population of each group, the overall racial composition.

Third, the measures cannot fairly be used to compare areas, in spite of their use in precisely that manner by the quoted studies. For example, suppose two groups live in equal numbers in each of two areas: this is the case if areas 11 and 12 in Figure 1(a) constitute a region for study. Group 1 is distributed in the region in the same manner as the rest of the population. There is no segregation. If however segregation were measured across the larger region of all 15 areas then the region would rightly be seen as segregated with respect to Group 1. Measures of segregation depend on the geographical boundary of the region and the areas within it, and cannot be used validly to compare different regions. This is a severe limitation of existing studies which compare regions as do both Peach and Johnston in the studies cited above.

Fourth, segregation is reasonably interpreted in discussion of social policy as a result of choices of location and restrictions on choice of location, in other words as a result of migration. However these statistical studies quoted and the index of segregation itself deal with the geographical distribution of the population, which is only partly a result of migration. 'Natural population change' due to births exceeding deaths is also a major factor in the distribution of Britain's black and Asian populations. It has quite different implications for social policy than does migration, for example family policy, the age structure of populations, their current youth and the projected needs of future elderly populations.

The next section uses demographic data for small areas in Bradford that overcome all these difficulties; it measures residential segregation as a process over time; it compares the same set of areas over time; it shows that changes to population patterns are marked by population growth rather than changes in population segregation; it separates migration patterns from natural change for the South Asian populations (the plural ‘populations’ is used in order to emphasise the diversity within the single category that is used due to lack of more detailed data) and for the rest of the population. These varied data are unusual. The potential for similar analyses in other areas is discussed in the final section.

One criticism cannot be overcome within the confines of a demographic analysis: self-segregation refers to individuals’ residential choice, but the overall measures make no distinction between voluntary and enforced segregation. It may be that what is observed for a group is the result of another group’s actions, of the economics of the housing market or indeed of the institutional framework of estate agents and social housing through which the housing market operates. These factors will be discussed in the final section. However, the demographic statistics discussed in the next section do allow a substantial assessment of the claim of racial self-segregation.

Evidence for residential segregation in Bradford District

Increasing residential segregation of South Asian communities is a myth. The overall segregation between ‘South Asian’ and ‘Other’ populations has not changed in the 1990s. This stability is a balance between three different trends. First, dispersal of the South Asian communities; second, immigration and natural growth in existing areas of South Asian settlement; third, the movement of South Asian families into housing vacated by others. Much of the movement by all groups is dependent on the means to move rather than racially motivated – it is migration of the relatively affluent from all groups.

Bradford Council has a long tradition of demographic statistics with a racial dimension, based on technical work in the 1970s and 1990s (Drew and Simpson, 1981; Simpson, 1997). The work was

pioneering in the sense of using datasets and producing detailed outputs that are unique in Britain. The outputs have been used to shape local policy in education, economic strategy, town planning, health and social services.

Table 1 shows the racial composition of the Bradford Metropolitan District as a whole. The District includes the city of Bradford as well as surrounding towns and rural areas. The Pakistani and Bangladeshi populations have grown rapidly, from immigration averaging 800 each year and from a relatively high natural growth, a result of the characteristic youth of immigrant communities. The fertility of these two groups has reduced to under half of its 1981 level, and current rates indicate a completed family size of under four children for each group (Simpson, 2002b). Therefore it is not their fertility so much as their lack of older people that creates a momentum of strong natural growth which, as for other immigrant populations, will continue until they include a substantial elderly population. This section will later examine the balance of births and deaths in more detail. The Indian group is larger than the Bangladeshi group, of earlier immigration and now more prosperous economically. The estimates in Table 1 will be revised after the results of the 2001 Census have been released in 2003, but the patterns of change are unlikely to be altered much.

Table 1. The estimated population of Bradford District 1981-1991-1996-2001

	1981	1991	1996	2001
African-Caribbean	6,200	5,850	5,950	5,800
Bangladeshi	2,300	3,900	4,750	5,850
Indian	12,900	12,600	13,700	14,500
Pakistani	33,600	48,950	60,950	73,900
White	404,500	398,300	391,300	374,100
Other groups	5,350	5,850	6,200	6,650

Source: Bradford Council (2000).

South Asian population growth alone has added to existing areas of settlement, causing both overcrowding and a change in the ethnic group composition of local communities. As we shall see below, more localities have become mixed, more have a South Asian majority, and less are

predominantly White. This change is a result of growth in the South Asian populations, not of segregation. We can quantify these changes using Bradford Council's population estimates for local areas.

For 1996, 2000 and 2001, the Council has used an analysis of names (Harding et al., 1999) from electoral and patient registers to update the age, sex and ethnic racial composition of each 1991 Census residential Enumeration District: 927 areas with an average population of 450. Because of the limitations of analyses of names, the racial categories are simply 'South Asian' and 'Other', though current work seeks to extend the categories. In Bradford, the 'Other' category includes significant but small populations of African, Caribbean, Eastern European, Chinese and other origins, but these are spread across many areas and for this paper's context the 'Other' group can usually be safely interpreted as 'White'. Using the 1991 Census with an allowance for undercount, and Bradford District population statistics for each ethnic group, the population estimates for the small Enumeration Districts incorporate evidence of different electoral registration rates in each area, and correct the tendency for counts of patients to over-estimate the population. The data are published on the Internet (<http://www.bcsp-web.org>, 2002) and the method is described both on that web site and for a set of larger areas in Simpson (1998). There is no reason to believe that it harbours biases that affect the following analyses. At the time of writing, these data are unique to Bradford. Census statistics for 1991 and 2001 will be available for all areas in Britain but their comparison will have to cope with difficult issues regarding different coverage, different geography and different questions resulting in different ethnic group categories. The present analysis avoids these issues by limiting itself to the geography and definitions of the 1991 Census.

The dataset provides a population map of the District (Figure 2) which clearly shows the historical concentration of South Asian populations in the inner areas of Bradford and Keighley as well as the considerable number of South Asian residents outside of these areas. The dataset also allows us to measure segregation at three points in the decade 1991 to 2001 (Table 2). Table 2 shows two trends. As predicted from the growth of the South Asian populations, the number of

mixed areas has increased over the decade, while there are fewer areas that are almost entirely (more than 95%) 'Other'.

Figure 2. Racial composition of 927 Census areas in Bradford District, 2001.
The areas are the 1991 Census Enumeration Districts.

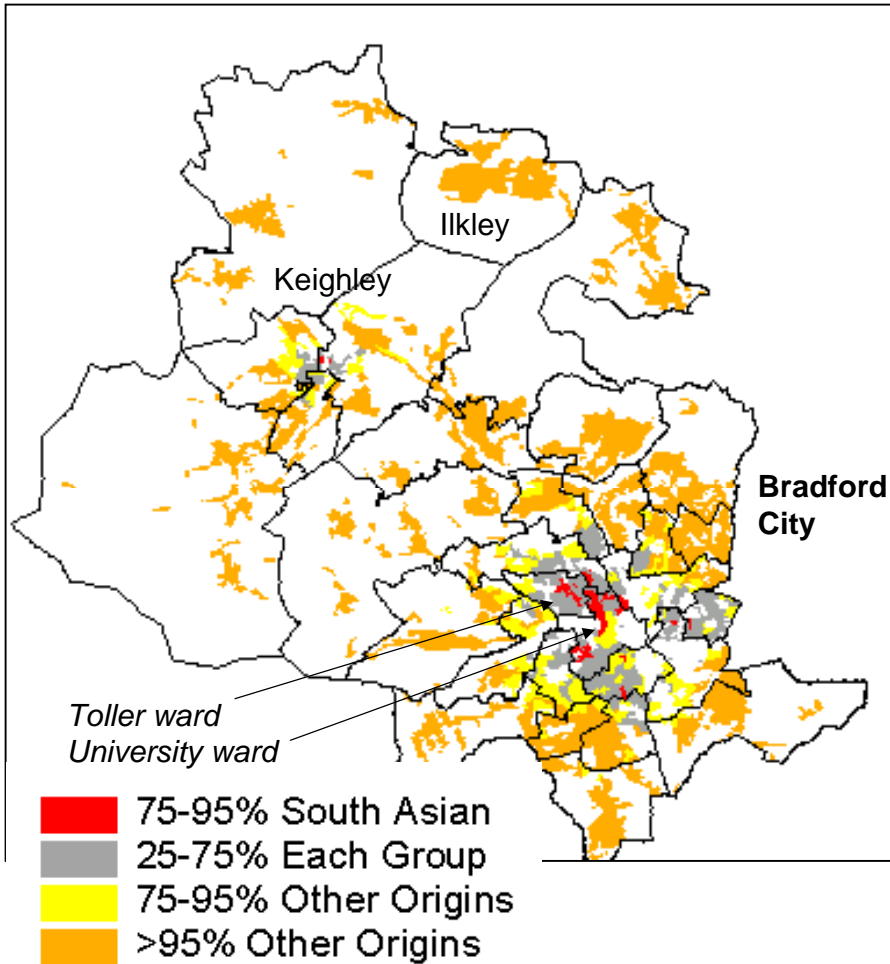


Table 2: Racial composition of 927 Census areas in Bradford District 1991-1996-2001

	1991	1996	2001
927 EDs (100-250 households)			
95% and higher South Asian	0	1	0
75%-95% South Asian	29	43	77
25%-75% mixed South Asian and Others	152	154	163
75%-95% Other	129	136	134
95% or more Other	617	593	553
Index of segregation	0.75	0.74	0.74

The first observation is therefore that Bradford has become more mixed. There are many fewer mono-racial areas at the beginning of the twenty-first century than a decade before. These mono-racial areas, if the term can be extended to such broad categories as we are using here, are almost entirely 'Other' which will usually be entirely White. There are no areas that are mono-racially South Asian.

The index of segregation shown in Table 2 is high but has been very stable over the decade, at 0.74 to 0.75. Our second observation is that, contrary to the claim of self-segregation, there has not been a separation of the South Asian and Other populations.

However, the growth of the South Asian populations and a lack of pulling apart, on average, is not the whole story by any means. As the South Asian populations have grown, new households have formed which must take some of the accommodation that previously housed White households, or some South Asian households must move to areas not previously settled. Both these processes happen and are very relevant to the claim of self-segregation for they are about *movement*, rather than merely the changing size of populations.

In Bradford there are again datasets that allow some measurement of migration. Bradford Health Authority has recorded the ethnic group of each child born to Bradford mothers since the 1970s.

The database shows how fertility has declined as mentioned above, but also shows the number of births in each small area of Bradford. Deaths are not coded in the same way but on the assumption that the two broad ethnic groups in each ward have the same age and sex-specific

Table 3. The impact of migration and natural change within Bradford, 1991-2000

(a) All ethnic group categories		Change 1991 to 2000							
	Pop.1991	Pop.2000	Total	Births	Deaths	Natural Change	Net Migration	Natural Change, %	Net Migration, %
Inner Bradford	113,274	118,064	+4,790	22,389	9,249	+13,141	-8,350	+12%	-7%
Keighley	46,023	45,903	-120	6,907	4,569	+2,338	-2,458	+5%	-5%
Outer Bradford	214,682	212,641	-2,041	26,489	20,922	+5,568	-7,608	+3%	-4%
Rural-Towns	101,177	104,411	+3,234	9,522	11,098	-1,576	+4,810	-2%	+5%
DISTRICT	475,155	481,019	+5,864	65,307	45,836	+19,471	-13,607	+4%	-3%

(b) South Asian populations		Change 1991 to 2000							
	Pop.1991	Pop.2000	Total	Births	Deaths	Natural Change	Net Migration	Natural Change, %	Net Migration, %
Inner Bradford	44,995	60,490	+15,495	14,890	1,397	+13,492	+2,003	+30%	+4%
Keighley	5,920	8,180	+2,260	2,216	131	+2,084	+176	+35%	+3%
Outer Bradford	14,229	21,639	+7,410	4,288	444	+3,845	+3,565	+27%	+25%
Rural-Towns	312	850	+538	52	23	+29	+509	+9%	+163%
DISTRICT	65,456	91,159	+25,703	21,445	1,995	+19,450	+6,253	+30%	+10%

(c) 'Other' populations		Change 1991 to 2000							
	Pop.1991	Pop.2000	Total	Births	Deaths	Natural Change	Net Migration	Natural Change, %	Net Migration, %
Inner Bradford	68,279	57,574	-10,705	7,499	7,851	-352	-10,353	-1%	-15%
Keighley	40,103	37,723	-2,380	4,691	4,437	+254	-2,634	+1%	-7%
Outer Bradford	200,452	191,002	-9,451	22,201	20,478	+1,723	-11,174	+1%	-6%
Rural-Towns	100,865	103,562	+2,697	9,470	11,075	-1,605	+4,301	-2%	+4%
DISTRICT	409,700	389,860	-19,840	43,861	43,841	+20	-19,860	+0%	-5%

These data are aggregated from the data for wards used in Figures 3, 4, and 5

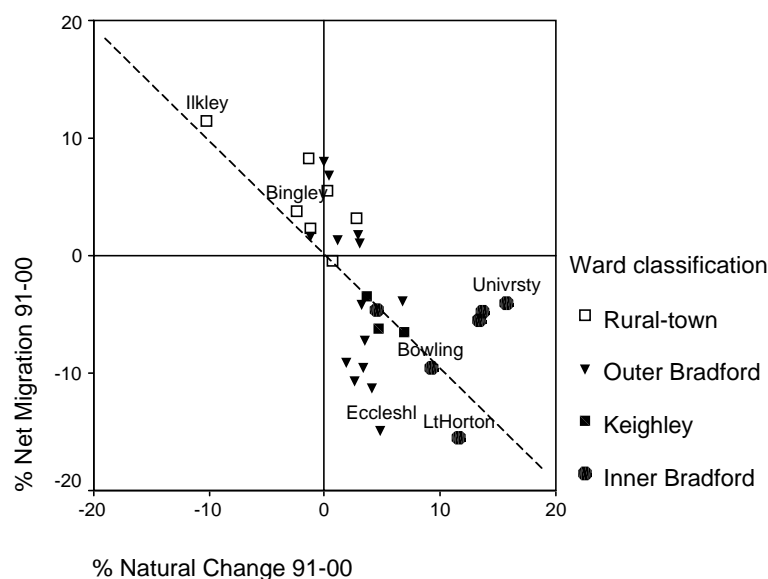
mortality rates, one can share the recorded number of deaths in each ward between the two groups. The number of deaths within the young South Asian populations is small, and so the assumption of equal mortality rates does not significantly affect the calculations and conclusions¹.

In this way natural change has been computed as the excess of births over deaths during the nine years 1991-2000, for the South Asian and the Other categories separately, in each of the thirty electoral wards of Bradford District. The net impact of migration in each ward is then computed by subtracting the natural change from the overall population change between 1991 and 2000. Births data were not available for the full ten years to 2001. The results are shown in Figures 3, 4

and 5 for the thirty electoral wards of Bradford. Table 3 summarises the patterns using four types of wards.

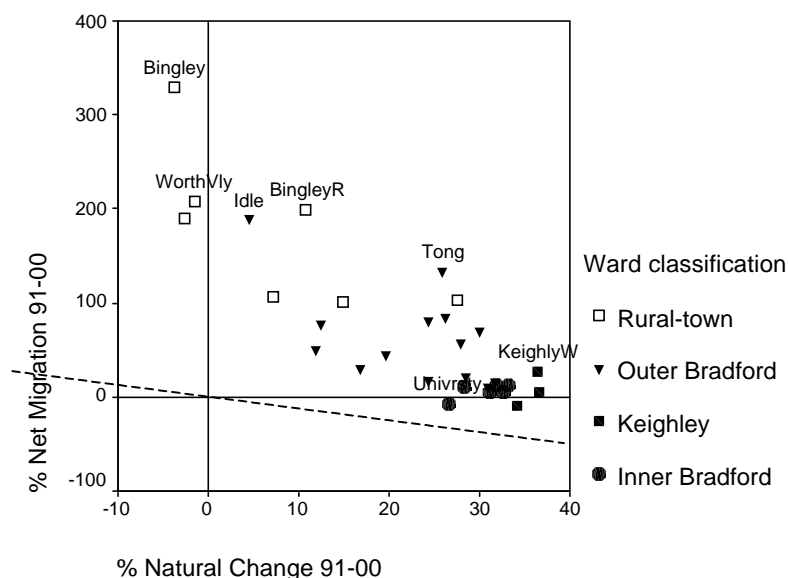
For the population as a whole (Figure 3), there is a pattern familiar to geographers. The inner city wards tend to gain population from natural change, but lose it through migration out of the area. On the other hand the rural and town wards of Bradford District that include Baildon, Ilkley, and Bingley, tend to lose or at least not gain much from natural change; these wards gain as more people move to them than leave for other areas. This is a long-standing relationship between a city and its hinterland. While most jobs are in the cities, many of those who can afford to do so commute from more prosperous areas outside the city (and from there not only into Bradford but into neighbouring Leeds and elsewhere). Some rural-town areas, including Ilkley, are also retirement areas for older people from outside the District, further increasing their gain through migration and natural loss through an excess of deaths over births. In these different ways, most of the Bradford wards have maintained a stable population during the 1990s. The dotted line shows areas that have not changed in population; wards above the line have gained and wards below it have lost population.

Figure 3. The impact of migration and natural change on thirty wards in Bradford, 1991-2000. Whole population.



The pattern in Figure 4 for the South Asian populations is similar in many ways to the pattern for

Figure 4. The impact of migration and natural change on thirty wards in Bradford, 1991-2000. 'South Asian' groups.



the total population. The inner wards have more natural increase than the outer and rural-town wards, and less increase from the net impact of migration. The same is true of the South Asian Populations in Keighley. However, all the wards are shifted above the line of no-change-in-population. Most have gained South Asian population from migration, and most have also gained from an excess of births over deaths.

The outer areas have grown most, in percentage terms. The net impact of migration of the South Asian population has occurred in areas outside the inner urban cores considerably more than in the traditional areas of settlement. It is clear that there has been a considerable dispersal of South Asian populations to outer Bradford and the rural and town areas, and further afield presumably.

The numbers involved in each ward are very different. The rural-town wards have nearly tripled their South Asian population from migration, for example, with an addition of 509 residents from just 312. The inner city wards much lower growth of 4% from migration nonetheless added 2,003 people (Table 3). The point is that the change is not equal growth in all areas. There has been a

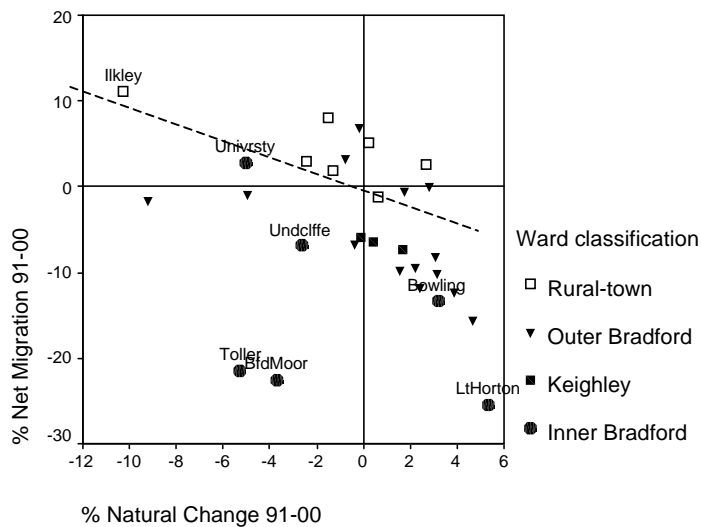
disproportionate growth in the outer and rural-town areas that has arisen from migration, while the inner South Asian populations have grown more from natural change.

A further important distinction should be made between migration from overseas and migration internally within Britain, for each ethnic group. South Asian immigration is focused on the inner city wards. This is shown both by the 1991 census special migration statistics (where 70% of Bradford's South Asian immigrants in the year before the census were living in inner city wards) and from Health Authority statistics of the country of birth of mothers. Both the 1991 Census and Home Office sources for 1991-2001 (Simpson, 2002b), show annual permanent immigration into the Bradford South Asian populations of around 800. This figure is consistent with the overall net growth from migration shown of 6,200 in the period 1991-2000 in Table 3 for the South Asian population. The difference indicates the relatively low migration of around one thousand residents out from Bradford District to other parts of Britain and to overseas.

However, if 800 South Asian immigrants arrive in Bradford annually, and 70% settle first in the inner areas, this amounts to an addition of just over five thousand in the period 1991-2000. Yet the total net growth from migration to the inner areas during that time was only two thousand (Table 3). Therefore, immigration aside, there is an *out*-migration of three thousand from the inner city, further emphasising the dispersal of existing residents. Similarly, Keighley's South Asian growth from migration of a little over one hundred is converted to a net loss of over 500 after immigration has been estimated. While some of this movement may represent emigration back to the India, Pakistan and Bangladesh rather than dispersal within Bradford and Britain, the District migration balance suggests that this is limited to one thousand altogether.

The picture for the ‘Other’ populations (see Figure 5) is different partly because those populations have reduced by 5% during the 1990s, the result of migration to other areas over the nine years. This is not a new phenomenon: in each year since records began in the 1970s, between 10 and 20 thousand people move to Bradford and slightly more move away. Similar movement has occurred from traditional manufacturing districts in other northern cities. That movement is not supplemented by immigration from overseas nor growth from natural increase, as is the case for the South Asian Populations on average. Thus most wards in Bradford have

Figure 5. The impact of migration and natural change on thirty wards in Bradford, 1991-2000. ‘Other’ groups.



seen a reduction in the Other, White population.

In Figure 5, three of the inner city wards stand out as having lost between 20% and 25% of their White population through migration during the 1990s – the inner city wards of Toller, Bradford Moor, and Little Horton. These are the same three wards of greatest South Asian growth (around 10,000 people in all), and thus where there is most pressure on family housing. South Asian growth is greatest in *percentage* terms in the outer areas as we have seen above, but the inner city growth in Toller, Bradford Moor, and Little Horton is much larger in absolute numbers of people and families. The remaining White population in these areas is relatively old and thus does not

have the natural growth characteristic of inner city wards, with the exception of Little Horton that contains the Canterbury Avenue council housing estate.

The broad picture that can be painted from these data is one of dispersal of a growing South Asian population from the inner city. This does not result in lower segregation because the inner city South Asian population is 're-filled' by natural growth (more births than deaths) and by immigration; there is some movement of South Asian families into the housing of White populations who move from inner city areas. Thus the index of segregation for Bradford as a whole has been stable, but this lack of change is the balance between several different trends.

Surveys of households tend to support the demographic findings in this paper. They repeatedly find that many South Asians, particularly young adults, would like to move, with others, to areas outside the current settlements (Ratcliffe, 2000; Phillips, 2002).

“Contrary to the popular perception that South Asians, especially in places like Bradford, prefer to self-segregate, we found evidence of the desire for more mixing on the part of all ethnic/religious groups. Almost all respondents who talked about mixing characterised this as a process of Asian integration into ethnically mixed neighbourhoods rather than dispersal to white areas... Movement to the outer areas of Leeds and Bradford was motivated by a better quality of physical environment,... better housing,... better schools,... a safer environment,... a more independent lifestyle, away from the sanctions and gossip of the ethnic cluster.” (Phillips, 2002, p10.)

However, from estate agents “semi-structured interviews uncovered a worryingly familiar use of racial stereotypes, an acknowledgement of vendor discrimination and distrust of Asian clients”, resulting in ‘steering’ of both Asians and Whites to areas felt to be less mixed (p7). Experience and history of harassment was a reason for avoidance of particular white areas, especially some of the Council Estates. If the statistics had shown increasing segregation, this would not have been surprising, given the difficulty of finding appropriate housing, social welfare and support in areas away from family and friends. Without those barriers more de-segregation would have been observed.

These interviews help to show *why* people are on the move, which the demographic statistics cannot achieve. To a large extent those leaving the inner city are those who can afford to move to areas with higher property and rental prices. Debbie Phillips' survey evidence confirms that for the South Asian population moves to outer areas are influenced by many factors but are allowed by accumulation of capital. There is sufficient anecdotal evidence to say that many families describe their current and their preferred residential areas in racial terms as well as in terms of relative prosperity, and may move (or not move) with both in mind. However and above all, the statistical patterns do not reflect some essential quality of 'South Asian' residents or 'Others'. They are the result of real choices by individuals, constraints arising from and a variety of practices in the housing market, by estate agents, government and local government and housing associations.

Discussion

In 2001 the phenomenon of racial self-segregation gained the status of a legend. It was coined in a review of race relations in Bradford (Ouseley, 2001), repeated in government reports and passed from one news report to another, becoming a popular explanation of observed residential patterns. It gave support to a Government Minister's complaint of Muslim isolationism. The legend uses racialised language. 'Flight' is the term used to describe white movement, while self-segregation is reserved for other groups (including a government minister's complaint of 'Muslim isolationism').

The evidence of this paper does not support this legend. Using the example of Bradford District, the number of majority South Asian areas has increased due to a growth in population from immigration and from natural increase, but not from movement of South Asian residents to areas of South Asian concentration from other areas. Demographic evidence shows dispersal, supporting the survey evidence of a desire to live in mixed neighbourhoods by most in the South Asian populations. The legend of self-segregation can now be seen to be a myth.

Bradford, held up by the purveyors of the legend of self-segregation as an archetypal polarising city, in fact has a rapidly changing composition driven by growth. Self-segregation is less likely to be found in other cities in Britain. The data used in this paper is unique to Bradford, but studies using migration data from the 1991 census also found a deconcentration from the main centres of settlement of South Asian residents. It will be feasible to compare the changing composition of areas between 1991 and 2001 if the different categories of ethnic group can be closely matched. It will also be essential to identify the contribution of migration within Britain, separately from that of overseas immigration and births and deaths. It is migration within Britain that would be responsible for self-segregation, and this has been shown to have an opposite pattern to overall population growth. A study of the components of change can also be applied in other countries where analysis of segregation has been limited to study of population totals.

The UK census will give some insight directly on migration from residents' addresses one year before census day (April 29th 2001). For each ethnic group, the impact of migration within the UK and from overseas should be related to the racial composition of each area to reveal the rates of dispersal from current concentrations.

Immigration is highly associated with concentrations of residents who lend each other family, cultural and social support in a society which is novel to them. For immigrants from South Asia and many other countries linguistic, religious and aspirational differences from the mainstream institutions also create natural reasons for clusters of residents. The hostility of many in the general population is often institutionalised; it is a hostility expressed in racial terms which makes it still more likely that those clusters will persist. Given this historical context, any suggestion of a preferred pattern, a norm or a natural dynamic to racial residence, is unhelpful and to this extent geographical analyses can become unnecessarily racialised to the point that it is not the geography but the analysis which is racially patterned.

To a large extent the legend of self-segregation has been a response to growth of the South Asian population, and in particular the Muslim population. The growth creates more areas with majority South Asian population, which official reports have acknowledged in an unhelpful victimising and accusatory manner with the false label of self-segregation.

Thus the positive message from this analysis is that segregation is not the problem it is perceived to be. Social policy for localities is better informed by a sociological and historical understanding of the class, housing, employment and educational dynamics of neighbourhood residential change. There are many positive aspects of communities that are strengthened by their historical common culture, which need to be recognised. At the same time the racially motivated barriers to movement and integration need to be dismantled, and the structural causes of sustained poor inner city neighbourhoods addressed.

The UK government has required a community cohesion plan from each local authority. This has in some areas been treated as an agenda for developing their race relations policy, but can be the basis for a range of other initiatives to unite residents rather than further divide them with racially-framed social policy. As the Cantle report emphasised, socialisation and pride in the community as a whole, as well as in one's own and others' contributions, occurs at work and in education as well as in residential and sectarian organisations. Bradford's own community cohesion plan emphasises four themes that are not focused on issues of racial segregation: equality in services, resources and employment; Civic pride and participation; healthy community life; and community safety (Bradford Council, 2002).

Finally, how can the wealth of statistics relating to race *not* contribute to sectarian interpretations of social trends resulting in divisive social policy? How can academic social research avoid reinforcing the racial thinking that reifies social categories of race and wrongly attributes social change to racial causation? This is a complex struggle but one with which each researcher engages. Through racially-conscious language and research directed at myth-busting and highlighting discrimination both individual and institutional, investigators play a part in making a just society in which racial differences no longer identify cumulative discrimination but one aspect of social description.

Footnote

¹ If one group has higher mortality than the other, then its number of deaths will have been underestimated, and consequently the gain through migration under-estimated. However, The South

Asian populations youthful composition mean that they contribute less than 4% of Bradford's deaths during the period 1991-2000 on the assumption of equal mortality rates. A deviation of 10% from equal rates, makes no difference to the pattern of natural change and migration in Table 3.

References

Anderson, James and Shuttleworth, Ian (1998) Sectarian demography, territoriality and political development in Northern Ireland. *Political Geography* **17**(2): 187-208.

- Aspinall, Peter (2000) The challenges of measuring the ethno-cultural diversity of Britain in the new millennium. *Policy and politics*, **1**: 109-118.
- Berthoud, Richard (1998) Defining ethnic groups: origin or identity. *Patterns of prejudice*, **32**(2): 53-63.
- Bradford Council (2002) *The Bradford District outline community cohesion plan*. Bradford: Bradford Metropolitan District Council.
- Cantle, Ted (2001) Community Cohesion: a report of the Independent review Team. London: Home Office.
- Champion, Tony (1996) Internal migration and ethnicity in Britain. Pp 135-173 in Peter Ratcliffe (ed) Social geography and ethnicity in Britain: geographical spread, spatial concentration and internal migration. (Ethnicity in the 1991 census, Volume 3). London: HMSO.
- Denham, John (2001) Building cohesive communities: a report of the ministerial group on public order and community cohesion. London: Home Office.
- Drew, David and Stephen Simpson (1981) *Bradford's black population, population forecasting and a fertility study*, Research Report MS/22, Sheffield City Polytechnic Department of Mathematics and Statistics.
- Dunn, Kevin (1998) Rethinking ethnic concentration: the case of Cabramatta, Sydney. *Urban Studies* **35**(3): 503-527.
- Fortuijn, Joos Droogleever, Musterd, Sako and Ostendorf, Wim (1998) International migration and ethnic segregation: impacts on urban areas. *Urban Studies* **35**(3): 367-370.
- Galton Francis (1869; 2nd edition 1892) Hereditary genius: an inquiry into its laws and consequences. London: Macmillan.
- Gorard, Stephen and. Chris Taylor (2002). What is segregation, a comparison of measures in terms of 'strong' and 'weak' compositional invariance. *Sociology* **36**(4): 875-895.
- Harding, S., H. Dews, and S. Simpson (1999) "The potential to identify South Asians using a computerised algorithm to classify names," *Population Trends* **97**, 46-9.
- Haskey, John (2002, ed.) *Population projections by ethnic group, a feasibility study*. Studies in Medical and Population Statistics **67**. London: The Stationery Office.

- Herrnstein, Richard and Charles Murray (1994) *The Bell Curve: Intelligence and Class Structure in American Life*. Free Press.
- Johnston, Ron, Forrest, James, and Poulsen, Michael (2002a) Are there ethnic enclaves/ghettos in English cities? *Urban Studies* **39**(4): 591-618.
- Johnston, Ron, Forrest, James, and Poulsen, Michael (2002b) The ethnic geography of EthniCities *Ethnicities* **2**(2): 209-235.
- King, James (1981) *The biology of race*. University of California Press.
- Nobles, Melissa (2000) *Shades of citizenship: race and the Census in modern politics*. Stanford: Stanford University Press.
- Ouseley, Herman (2001) *Community pride not prejudice, making diversity work in Bradford*. Bradford: Bradford Vision.
- Peach, Ceri (1996) Does Britain have ghettos? *Transactions, Institute of British Geographers* **21**(1): 216-235.
- Peach, Ceri (1998) South Asian and Caribbean ethnic minority housing choice in Britain. *Urban Studies* **35**(10): 1657-1680.
- Peleman, Katleen (2002) The impact of residential segregation on participation in associations: the case of Moroccan women in Belgium. *Urban Studies* **39**(4): 727-747.
- Phillips, D. (1998). Black minority ethnic concentration, segregation and dispersal in Britain. *Urban Studies* **35**(10): 1681-1702.
- Phillips, D. (2002). *Movement to opportunity? South Asian relocation in northern cities*. End of Award report, ESRC R000238038. Leeds, University of Leeds School of Geography.
- Ratcliffe, Peter (1996) *Social geography and ethnicity: a theoretical, conceptual and substantive overview*. Pp1-22 of Peter Ratcliffe (ed) *Social geography and ethnicity in Britain: geographical spread, spatial concentration and internal migration*. (Ethnicity in the 1991 census, Volume 3). London: HMSO.
- Ratcliffe, Peter et al. (2000) *Breaking down the barriers: improving Asian access to social rented housing*. London: CIH.

- Rex, John (1981) *Urban segregation and inner city policy in Great Britain*. Pages 25-42 in C Peach, C Robinson and S Smith (eds), 1981, *Ethnic segregation in cities*. London: Croom Helm.
- SEU (2000) *National strategy for neighbourhood renewal: Report of Policy Action Team 18 – Better Information*. Cabinet Office, Social Exclusion Unit. London: The Stationery Office.
- Simpson, Stephen (1997) Demography and ethnicity: case studies from Bradford, *New Community* **23**(1): 89-107.
- Simpson, Stephen (1998) *Apportionment using counts of patients and electors*. Pages 61-68 in Simpson S. (ed), *Making local population statistics: a guide for practitioners*, Estimating with Confidence, LARIA, 9 Cortland Road, Nunthorpe, Middlesbrough, TS7 0JX.
- Simpson, Ludi (2002a) 'Race' statistics: theirs and ours. *Radical Statistics*, **79/80**: 76-95.
- Simpson, Ludi (2002b) *Estimating methodologies and assumptions for projections: current practice for population projections by ethnic group*. Chapter 4 (pp 53-72) in John Haskey (ed) *Population projections by ethnic group, a feasibility study*, Studies in Medical and Population Subjects no. 67, 2002, The Stationery Office.
- Southworth, Jo (2001) Count me in? *Radical Statistics* **78**: 32-39.
- Voas, David and Williamson, Paul (2000) The scale of dissimilarity: concepts, measurement and an application to socio-economic variation across England and Wales. *Transactions, Institute of British Geographers* **25**: 465-481.
- Zuberi, Tokufu (2001) *Thicker than blood: how racial statistics lie*. Minneapolis: University of Minnesota Press.