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School and Residential Ethnic Segregation: An Analysis of Variations across England's Local Education Authorities

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Abstract

Schools are central to the goals of a multi-cultural society, but their ability to act as arenas within which meaningful inter-cultural interactions take place depends on the degree to which students from various cultural backgrounds meet there. Using recently-released data on the ethnic composition of both schools and small residential areas, this paper explores not only the extent of ethnic segregation in England's schools but also whether that segregation is greater than the underpinning segregation in the country's residential areas. The results show greater segregation in schools – considerably so for primary schools and more so for some ethnic groups relative to others – than in neighbourhoods, patterns which have considerable implications for educational policy.

Keywords: ethnic segregation, neighbourhoods, schools

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The nature of Britain's multi-cultural society has attracted much attention recently. In January 2005, the *Guardian* newspaper published a special supplement on London as 'the most cosmopolitan place on earth' and a series of analyses on various aspects of the contemporary situation. In this supplement, CANTLE (2005, 26) claimed that:

> Britain is a multicultural society, but most people do not live in multicultural communities. Most of the ethnic population lives in London and a few other regional centres. The White population dominates the rest of the country. Even in areas that are mixed, the separation is often just as evident, with most towns and cities divided by neighbourhoods. But does it matter, and, if it does, what should we do about it?

The extent of that division is shown in the accompanying maps of where various ethnic and religious groups live within London. The clustering that they depict is in part due, Cantle claims, to 'self-segregation', some degree of which is desirable because 'if we want to preserve cultural identity a critical mass of each community is necessary'.[1] But, Cantle continues,

> …"segregated" communities are so dominated by particular groups that the possibility of contact with the majority population or another minority group is limited. These "parallel lives" do not meet, leaving little or no opportunity to explore differences and build mutual respect. We cannot issue edicts about where people should live, but we should always remember that a segregated society is a divided society.

The paper's leading article on the same day stressed the same point: 'communities which do not overlap or have meaningful cultural interchanges, breed fear, distrust and division' (*The Guardian*, 21 January 2005, 29).

One of the key arenas within which such overlaps can occur and 'meaningful cultural interchanges' take place is in the country's schools, where inter-cultural appreciation and respect can be nurtured through contact at crucial stages in personal development and socialisation. If, however, various ethnic communities live in separate residential communities, it is very likely that their children will attend schools with similar cultural compositions. Furthermore, in order to promote their own cultural norms and values, it may be that many parents will select schools for their children where these are emphasised, where 'difference' is privileged and inter-cultural contact restricted, if not precluded. That this may be the case in England was the subject of comments by the country's Chief Inspector of Schools in an address to the Hansard Society on 17 January 2005 (BELL, 2005). With specific reference to 'faith schools' being established in several parts of the country – especially by Muslims – he recorded that 'I worry that many young people are being educated in faith-based schools, with little appreciation of their wider responsibilities and obligations to British society' (p. 16).[2] In his view

> This growth of faith schools should be carefully but sensitively monitored by government to ensure that pupils at **all** schools, receive an understanding of not only their own faith but of other faiths and the wider tenets of British society. We must not allow our recognition of diversity to become apathy in the face of any challenge to our coherence as a nation (p. 17: his emphasis).

For Bell, this requires citizenship education – the focus of his address:

> Citizenship education can be a positive force for good in this regard – promoting acceptance of different faiths and cultures as well as alternative lifestyles. Pupils can learn when to draw lines: how to say no to racial and

> religious intolerance; how to stand up to injustice; how to bring about change in policies that are unacceptable (p.18).

In this way, he claims, students can help to structure a new British society by 'how they live, what they think and who they have as their friends' (p. 19). But if they live in relatively segregated neighbourhoods and attend relatively segregated schools, will 'abstract' lessons about differences within their society nurture the mutual tolerance he aspires to, and how will they develop cross-cultural friendships if their home and school milieux more or less preclude the contacts within which those relationships can be cultivated?

This issue was taken up by the Chair of the Commission for Racial Equality, who claimed in a speech to the Manchester Council for Community Relations that 'Our ordinary schools .. are becoming more exclusive', at the same time as residential segregation is increasing, especially for Asians.[3] To counter this 'sleepwalking into New Orleans-style racial segregation … [a] Britain of passively coexisting ethnic and religious communities, eyeing each other uneasily over the fences of our differences', he suggested that measures such as 'forcing "white" schools to take larger numbers of ethnic minorities to help to encourage integration' might be necessary.

These arguments have also attracted the attention of a number of academic commentators on the contemporary situation – what ABBAS (2005) terms a turn away from policies of multi-culturalism back to assimilationism 'through social interaction and economic exchange' (p. 156). Both approaches have their problems, he argues: multi-cultural policies can be portrayed as 'an obstacle to "integration" or a threat to "our common culture", whereas assimilationist policies carry the potential for resistance by those who wish to maintain their identity, 'with the likelihood of stereotyping and stigmatising immigrant populations who are thought to be willing to adapt' (p. 163: see also BACK ET AL, 2002; MODOOD, 1998; WERBNER, 2000). Although such attitudes may have what AMIN (2002, 959) terms a 'national frame of race and ethnicity' nevertheless, as he points out, 'the daily negotiation of ethnic difference … emphasises local liveability, that is, the micro-politics of everyday social contact and encounter'. Many areas lack such everyday social contact, however – 'neighbourhoods where greater physical and social mobility, a local history of compromises, and a supportive institutional infrastructure have come to support cohabitation of some sort' (p.961). Against these, he identifies both areas of 'White flight … [comprising] suburbs and estates dominated by an aspirant working class or an inward-looking middle class repelled by what it sees as a replacement of a homely White nation by another land of foreign cultural contamination and ethnic mixture' and 'old White working-class areas with successive waves of non-White immigrant settlement characterised by continued socio-economic deprivation and cultural or physical isolation between White residents lamenting a loss of a golden ethnically undisturbed past, and non-Whites claiming a right of place, often against each other'.

AMIN's categorisation of neighbourhood types clearly warns against any simplistic determinism – that cultural mix in a milieu will necessarily promote everyday social contact and encounter leading to compromises and an accepted modus vivendi. On the other hand, if there is no such contact, negative stereotyping is a very likely outcome. Such has occurred, according to the OUSELY REPORT (2001) on the disturbances in several northern English cities in 2001, in part, because of 'a segregated school system that ahs failed to challenge negative attitudes and stereotypes and that has

played a marginal role in brokering cultural shifts between family, school, and public life' (AMIN, 2002, 962).

The implication of such arguments is that society will be 'better' – fairer, more tolerant and culturally richer – if children mix and make friends with students from other ethnic groups than their own in school milieux where they learn tolerance face-to-face in a nurturing, guided environment and then take these favourable experiences forward into adult life.[4] The pursuit of such aspirations raises important questions about the composition of the country's schools. Is there ethnic segregation? If so, does this simply mirror the residential segregation which successive censuses have uncovered, or is it more intensive, suggesting that parental choice and the other factors which contribute to a school's composition are producing more segregated schools than might be anticipated from knowledge of the map of neighbourhood composition? The answer to the first question is certainly yes: research has shown that England's state-funded secondary schools are indeed ethnically-segregated (BURGESS and WILSON, 2005; JOHNSTON, WILSON and BURGESS, 2004, 2005). With regard to residential segregation, although Britain does not have the levels of ethnic segregation characteristic of the United States (PEACH, 1996; JOHNSTON, POULSEN and FORREST, 2002a), nevertheless there is considerable neighbourhood separation of the various ethnic groups, both from each other and from the dominant (almost invariably majority) group (JOHNSTON, POULSEN and FORREST, 2002b). Other investigations have shown that school and residential segregation are linked (BURGESS, WILSON and LUPTON, 2005), although only for secondary schools.[5]

In this paper we take those analyses further, exploiting not only a unique data set on school ethnic composition but also the geography of the newly-published results of the 2001 Census. Our goal is to explore not only the levels of ethnic segregation in England's schools – both primary and secondary – and residential neighbourhoods, at various scales, but also the link between the two. Is school segregation at both levels greater than residential segregation? Recent US research, for example, has shown that removal of the 'separate but equal' educational systems practised in most states prior to the *Brown vs Board of Education* decision in 1954 has not led to greater integration of the country's schools, but rather to a resegregation based on parental choice of where to live and which schools to enrol their children at (CLOTFELTER, 2001; ARMOR and RUSSELL, 2002). Although the situation in England's schools and neighbourhoods has never been anything like as extreme as that in the United States, nevertheless it is possible that British parents' choices are leading to more segregated schools than neighbourhoods. Analyses of the relative intensity of school and neighbourhood segregation should give pointers to the extent of this – if any – and raise issues for further research into links between the English state school system and the development of citizenship in a multi-cultural society.

Given the important role that schools are assumed to play in the creation and sustenance of a tolerant multi-cultural society, this paper looks at the current situation in England with regard to ethnic segregation in schools. It provides descriptive data to show the degree of segregation throughout the state sector – in both primary and secondary schools – using an approach to 'measuring' and portraying segregation levels that indicates the full range of experience rather that summarising this to a single index of the 'average person's situation. The levels of school segregation for

Whites and each of the main ethnic groups are then compared with the levels of residential segregation for the same groups across the country's 149 Local Education Authorities to inquire whether schools are more or less segregated than the neighbourhoods from which they draw their students.

DATA

These analyses deploy two data sets, both of which give comprehensive information on the ethnic composition of the country's schools and neighbourhoods. For schools, we use the Pupil Level Annual School Census (PLASC), recently released to researchers by the Department for Education and Skills. For each state school in England – the data do not extend to Wales, Scotland or Northern Ireland – we have information on the ethnicity of each pupil for the 2001-2002 academic year, covering some 4.4 million students at primary schools (attended by children between ages 5-11) and 3 million at secondary schools (attended between the ages of 11 and 16).[6] The ethnicity data are collected from parents when students first enrol at a school, with 'missing' or 'not known' recorded for only a small proportion (2.5 per cent of primary school students, for example).

Data on self-identified ethnicity was collected in the 2001 Census, and made available in the Standard Tables according to the following categories and sub-categories:

White, subdivided into
    British, Irish, and Other White
Mixed, subdivided into
    White-Black Caribbean Mixed, White-Black African Mixed, White-Asian Mixed, and Other Mixed
Asian British, subdivided into
    Indian, Pakistani, Bangladeshi, and Other Asian
Black British, subdivided into
    Black Caribbean, Black African, and Black Other
Chinese and Other, subdivided into
    Chinese, Other

While PLASC formally uses the same schema for recoding ethnic identity as the 2001 Census, in practice the vast majority of schools' returns in 2001/02 covered the ten categories which had been used in previous Annual School Censuses – White, Black Caribbean, Black African, Black Other, Indian, Pakistani, Bangladeshi, Chinese, Other and Not Known/Missing. In these analyses we aggregate the Census data to mirror the school ethnic categorisations. As a consequence, the 'Mixed' category is excluded from these analyses and study of this rapidly-growing group within the English population must await the availability of further data.[7]

The census data are available for a number of small area units which are structured into a hierarchical scheme, comprising:

Output Areas (OAs) – the smallest units, designed to be relatively homogeneous on two criteria (dwelling type and tenure), within size and shape constraints; their average population in England was 297 persons;
Lower-Layer Super Output Areas (LLSOAs) – these comprise groups of contiguous OAs, constructed according to the same criteria; their average population was 1514; and

Middle-Layer Super Output Areas (MLSOAs) – groups of contiguous LLSOAs with average populations of 7234.[8]

The OAs and LLSOAs nest within the electoral wards, used in many previous analyses of residential segregation. These vary considerably in their size, however – ranging from the smallest with only 109 residents to the largest with 35,102 – and have not been used in the present study especially as the largest wards are in urban areas, where a much finer-grained geography is desirable for studies of neighbourhood segregation. (The average ward in Greater London had 11,330 residents, for example; for Birmingham the figure was 25,054.)

Our spatial unit for analysis of these school and census data is the Local Education Authority (LEA), of which there are 149 in England. These are the statutory (local government) bodies which deliver the state education service and are the units to which schools are allocated in the PLASC data set: they include the 32 London Boroughs, the 36 Metropolitan Boroughs outside London, the 43 Unitary Authorities created by the local government reorganisation of the mid-1990s, and the 38 Shire Counties. The census data have been aggregated to fit into this structure.

One previous study has investigated the links between residential and school segregation, at the secondary school level only, using the PLASC data for school ethnic composition and Census ward data for neighbourhood composition (BURGESS, WILSON AND LUPTON, 2005). Its measures of segregation – indices of dissimilarity and isolation – depict the average situation for members of the various ethnic groups in each LEA. Regressions show that neighbourhood and school segregation are linked, with the latter slightly greater than the former. In this paper, we extend that analysis substantially: (1) by looking at primary as well as secondary schools; (2) by analysing residential segregation at much smaller, and more relevant, spatial scales than the ward; and (3) by deploying a measure of segregation – described below – which uses more of the available information by focusing on the percentage of students who attend schools with different ethnic composition and of people living in neighbourhoods with different composition. In these ways, we provide a much more extensive evaluation of ethnic segregation in English schools and neighbourhoods.

MEASURING SEGREGATION

The concept of segregation relates to the degree of sharing of a space by two or more groups, whether that space be a school, a neighbourhood, a workplace or some other territorially-defined unit. A group is more segregated from all other groups within the society under consideration, the less that they share the same spaces. Segregation for group *x* is greatest, for example, when all of the spaces that it occupies are 100 per cent comprised of members of *x* and all of the other spaces contain none from that group. The degree of segregation is unusually measured by an index number, with two commonly deployed: the index of dissimilarity/segregation and the index of isolation. Both are single-number indices, and represent the situation of the average individual. This involves a considerable loss of information and says nothing about either the situation in any one spatial unit or any variations in the situation among a group's members. Furthermore, such indices are often incommensurate when applied to, say, different groups in the same set of spaces or the same group across different sets if the groups differ in size (TAYLOR *et al.*, 2000). For those reasons, graphical

devices – concentration profiles – have been promoted in recent studies of ethnic residential and school segregation (POULSEN, JOHNSTON and FORREST, 2002; JOHNSTON, WILSON and BURGESS, 2004). These have then been used as the basis for developing a classification of residential areas/schools based on their ethnic composition, which is deployed here.

Ethnic segregation is multi-dimensional in multi-cultural societies such as the British. To capture this, a classification scheme was devised to encompass three separate segregation dimensions:

1. *Concentration* – the degree to which members of group ***x*** are spatially separated from all others;
2. *Assimilation* – the degree to which members of group ***x*** share spaces with members of the majority group ***a***; and
3. *Encapsulation* – the degree to which members of group ***x*** share spaces with members of other ethnic minority groups (***y*** and ***z***, say).

The scheme as applied to schools is shown diagrammatically in Figure 1. The first dimension, the upper horizontal axis, is the percentage of students who are White, whereas the second, the lower horizontal axis, is the percentage who are non-White. The third – the vertical axis – is the percentage of non-White students in any one minority ethnic group. The same scheme is used for populations in a residential area (POULSEN, JOHNSTON and FORREST, 2001)

Five Types (of school or neighbourhood) are identified, as depicted in Figure 1:

I – Whites predominant (Whites 80% or more);
II – White majority (Whites 50-80%);
III – Substantial White minority (Whites 30-50%);
IV – Substantial non-White majority (ethnic minority 70% or more) but no single ethnic group dominant;
V – Substantial non-White majority, with one ethnic group 50% or more of the non-White total. (This last group is further subdivided according to which ethnic minority group dominates – e.g. Indian, Pakistani, etc.).

The greater the ethnic mix in schools and neighbourhoods the greater the proportion of the relevant population in Types II and III; the greater the segregation the greater the proportion in Type IV and, especially, Types I and V.

SCHOOL AND RESIDENTIAL SEGREGATION: THE NATIONAL PATTERN

The distribution of population and students across this ethnic-composition typology in 2001 in England as a whole is shown in Table 1 for primary schools, secondary schools, and the three census output area levels. The first block, for the total populations, shows that most people – 86 per cent – live in predominantly White areas (Type I) at each scale: indeed, the pattern is virtually scale-invariant, with only 4 per cent of the national population living in neighbourhoods with non-White majorities (III-V). Similarly, most students go to predominantly White schools – slightly more so among secondary than primary school students. (Primary schools are on average the smaller of the two – 242 students as against 970 in the average secondary school.) But approximately one-tenth of students, again slightly more at primary than secondary schools, attend schools with a non-White majority, mainly those in Type III, where Whites however form a significant minority of the total. Only a very small

percentage of students attend schools where one minority group – either Indians or Pakistanis – predominates (Type V), and less than one per cent of the population lives in comparable neighbourhoods.[9]

For the population of England as a whole, therefore, living in White-majority areas and students going to White-majority schools is the norm, although there is slightly more segregation in neighbourhoods than in schools. For the White population, the second block in Table 1 shows that 97-99 per cent of students go to White majority schools, almost all of them of Type I, and 98-99 per cent of the population lives in small neighbourhoods with a White majority – again, almost all of them Type I. England's White population and White students are very largely isolated from contact with substantial numbers of people/students from ethnic minorities.

Turning to those ethnic minorities, the lower two blocks of Table 1 show the distributions for all Blacks and all South Asians (Bangladeshis, Indians and Pakistanis). Both show substantial proportions of their respective total living in White-minority neighbourhoods and attending White-minority schools (Types III-V) and also much greater segregation in schools than in neighbourhoods. Among Blacks, for example, whereas 42 per cent of students attended White-majority primary schools and 51 per cent attended Types I and II secondary schools, between 71 and 79 per cent of Blacks were living in White-majority neighbourhoods (with the largest percentage for the largest scale MLSOAs). Slightly fewer South Asian students were attending the White-majority schools and living in White-majority neighbourhoods, but there is again a substantial difference between the two. For both groups, school segregation is much greater than neighbourhood segregation.

The data in Table 1 also show a significant difference between the two main ethnic minority groups in their distributions across the non-White-majority neighbourhoods and schools (Types III-V). Very few Blacks live in Type IV areas, where Whites form less than 30 per cent of the total, and there are virtually none in the Type V areas, where in addition Blacks form a majority of the non-Whites. Many more South Asians live in such relatively exclusive areas – 1-in-6 at the smallest neighbourhood scale (OAs) and 1-in-12 at the much larger MLSOA scale. This greater residential segregation of South Asians than Blacks is mirrored by the school populations. Over half of all South Asian students (52 per cent) are in Type IV-V primary schools, where Whites form less than 30 per cent of the total enrolment, and over one-third (35 per cent) attend similarly-constituted secondary schools: for Blacks the comparable percentages are 30 and 15.

Two clear conclusions can be drawn from these initial data: (1) across England as a whole, both Blacks and South Asians are substantially more segregated in schools than they are in neighbourhoods; and (2) South Asians are more segregated than Blacks. Tables 2-3 look at these two groups in more detail. Among Blacks (Table 2), the Black Caribbean and Black African are more segregated with regard to schools than are those categorised as 'Black Other',[10] the majority of whom attend White-majority primary and secondary schools. Among the Black Caribbean and Black African populations, very few – 1-2 per cent only – live in relatively exclusive Black enclaves (Type V), at any neighbourhood scale according to the Census data: of those who live in White-minority areas, almost all are in those categorised as Type III. Substantially more attend Type III-IV schools, but only around 1-in-10 attend schools

where Blacks predominate (Type V). In primary schools, members of each group are likely to be found in establishments where their own group predominates, but at the larger secondary school scale they are in schools where Blacks as a whole predominate. (The final block in Table 2 refers to those classed as 'Others' by their schools – i.e. neither Black nor South Asian, nor Chinese: over 85 per cent of them live in White-majority neighbourhoods, but only just over half attend White-majority schools.)

Table 3 shows substantial differences across the three South Asian groups, for each of which a majority live in White-majority neighbourhoods at all scales (Types I-II) but a majority of their students attend White-minority schools (Types III-V). Among the latter, many more South Asians than Blacks attend Type V schools in which not only is there a significant non-White majority but also one of the minority groups predominates. One-in-five Indian students attend Type V primary and secondary schools with an Indian majority, for example; 2-in-5 Pakistani primary school students attend primary schools with a Pakistani majority, as do 1-in-5 of secondary school students. Among Bangladeshis, 30 per cent of primary and 25 per cent of secondary school students attend institutions with Bangladeshi majorities, with a further 11 per cent of the former and 5 per cent of the latter at schools where Pakistanis predominate. Finally, most Chinese live in White-majority areas and attend White-majority schools, although around twice as many attend White-minority schools as live in White-minority neighbourhoods.

The clear pattern to be drawn from these tabulations is that there is greater school than residential segregation, especially among the members of the ethnic minority groups. To some extent, this may be because of differences in the age structure of the various populations. A cross-tabulation of age by ethnicity for wards shows that in Bradford, for example, Pakistanis comprised 15 per cent of the total population in 2001 but 23 per cent of the population aged 5-9 and 21 per cent of that aged 10-17. (They also comprised 23 and 22 per cent of the primary and secondary school enrolments respectively.) Looking across England as a whole, the first block of data in Table 4 shows that several of the main ethnic groups studied here – notably the three South Asian groups – form larger proportions of the national population in the two school-age groups (5-9; 10-17) than they do of the total. The second block, comprising their mean percentages of the ward totals, together with their standard deviations, further indicates greater spatial concentration of students than of the total population, with larger means and standard deviations for the 5-9 and 10-17 age-groups than for the total population. Finally, the third block shows the results of regressing the percentages in each age-group against the total population percentage for each age and ethnic group. Regression coefficients significantly greater than 1.0 in every case indicate not only that the larger the group as a percentage of the total population in a ward the larger the percentage in either age group but also that the latter figure increasingly exceeds the former. Where Black and South Asian ethnic groups are residentially concentrated, their school-age children are even more so. Thus some element of the greater school than residential segregation shown in Tables 1-3 is to be expected, though the differences between the two – especially those shown for South Asians in Table 3 – are undoubtedly too substantial to reflect this demographic patterning alone.

Census data at the smaller spatial scales only provide a cross-classification of ethnic group by age for seven age-groups, one of which – 5-15 – covers the great majority of students at both primary and secondary schools and therefore does not allow separate analyses of residential segregation by the two groups. Because wards are relatively large spatial units – with average populations of 5,604 persons (standard deviation 4,037) in 2001 – there are relatively few of them in most urban places where, as shown below, the ethnic groups are concentrated. (Indeed, they are on average much larger in the cities than in smaller towns and rural areas.) Classifications of wards using the above schema are relatively coarse, therefore, and we have chosen to focus on the smaller LLSOAs in our analyses. For these, we use the total ethnic population in our measures of residential segregation, so that our analyses contrast students' exposure to people from their own and other ethnic groups (including Whites) in their schools and in their home neighbourhoods.

SEGREGATION IN INDIVIDUAL PLACES

These initial analyses show national patterns of both residential and school segregation, with the clear suggestion that the latter is greater than the former, especially among those of South Asian ethnicity. Most members of ethnic minority groups are not evenly distributed across the country as a whole, however: rather they are concentrated in a relatively small number of places. Of the 671,067 non-White primary school students, for example, 284,688 (42 per cent) lived in Greater London. Only six other LEAs had more than 10,000 – Birmingham, 46,971; Bradford, 18,364; Leicester, 14,693; Kent, 14,044; and Hertfordshire, 13,126 – and 70 others had between 1000 and 10,000. Similarly, of the 374,468 non-White secondary school students, 164,556 (44 per cent) lived in Greater London. Only 54 other LEAS had more than 1000 non-White secondary school students, with just two – Birmingham and Bradford – having more than 10,000. Outside London, only Birmingham has a multi-ethnic school population, with substantial number of Black Caribbeans, Indians, Pakistanis and Bangladeshis: 80 per cent of Bradford's non-Whites are Pakistanis, and 58 per cent of Leicester's non-Whites are Indians.

Greater London

Table 5 provides similar data for the 32 LEAs within Greater London to that for the whole of England in Tables 1-3. In this, and all subsequent tables, for ease of presentation data for only one residential space – the Lower-Layer SuperOAs (LLSOAs) – are shown: Tables 1-3 show only relatively small variations across the three Census small-area types.[11] As in the previous tables, the contrasts are between school students (for school segregation) and total population (for residential segregation).

The first three blocks in Table 5 – for Whites, Blacks and South Asians – show a marked contrast from the situation in the country as a whole, especially for Whites. Whereas nationally around 90 per cent of all White students attended schools where Whites predominated (Type I) and virtually none attended schools with White minorities, in London only 75-80 per cent were in White-majority schools, with around half of them in Type II rather than Type I institutions. There was less segregation in schools than in residential areas, however, with 93 per cent of the White population living in White-majority neighbourhoods. In a city with a large non-

White population, many White students attended schools with a substantial ethnic minority although relatively few attended schools with non-White majorities. In London, therefore Whites were more likely to be exposed to a – relatively small – number of non-Whites in their schools than in their home neighbourhoods.

For non-Whites, however, in London as in the country as a whole, residential segregation was less than school segregation. With large non-White populations, spatial polarisation was greater in the capital city than elsewhere in the country, especially in schools. This is particularly the case with Bangladeshis, among whom 45 per cent of all primary school students and 41 per cent of those attending secondary schools were enrolled at Type V establishments where Bangladeshis were a majority of the non-Whites.

Within London, most of the non-White ethnic groups are concentrated into a small number of LEAs. Of the 27,543 Bangladeshi primary school students, for example, 12,925 attended schools in Tower Hamlets and a further 4208 in neighbouring Newham. Those schools were highly segregated, with just over two-thirds of Bangladeshis attending primary schools where Bangladeshis predominated and just under two-thirds at comparable secondary schools (Table 6): only one-quarter of all Bangladeshis, on the other hand, lived in neighbourhoods (LLSOAs) where Bangladeshis predominated.

Indian students are concentrated in three parts of London: of the 38,433 primary school students, 21,890 attended schools in a block of six northwest London LEAs – Barnet, Brent, Ealing, Harrow, Hillingdon and Hounslow – with secondary concentrations in northeast (2,900 in Newham and Redbridge) and south London (2,932 in Croydon, Merton and Wandsworth). In the main concentration, 41-49 per cent of students were at schools where Indians predominated, and only around one-fifth were in White majority schools (Table 5). Again, this was much greater segregation than was the case with residential neighbourhoods: at the LLSOA scale, some 45 per cent of all Indians in those six boroughs lived in White-majority neighbourhoods, and only 19 per cent in those where Indians were the predominant element in the population.

Pakistanis are more widely dispersed through London than either of the other South Asian groups, with two main areas of concentration. Of the 21,540 primary school students, 9,222 are in a northeast London cluster of three LEAs (Newham, Redbridge and Waltham Forest), with a further 4,932 in the three northwest London boroughs of Brent, Ealing and Hounslow. As Table 5 shows, only about one-tenth of Pakistani students attended White-majority primary or secondary schools in the former cluster: the majority – two-thirds in the case of primary school students – were at Type IV schools where Whites were only a small minority but where no non-White ethnic group predominated.

Other LEAs

Table 7 provides comparable data to those in Tables 5-6 for a number of other LEAs, each of which has at least two relatively large non-White ethnic populations. Birmingham's total population of 977,116, for example, includes 104,019 Pakistanis, 55,744 Indians and 57,831 Black Caribbeans. As in London, each of these three

groups is less segregated residentially than are its students at primary and secondary schools. This is especially the case with the Pakistanis: fully 68 per cent of primary students attended predominantly Pakistani schools, as did 52 per cent of secondary school students, whereas among the group's population as a whole, only 49 per cent lived in Pakistani-dominated neighbourhoods at the LLSOA scale. In contrast, very few students attended White-majority schools (9 and 13 per cent respectively for primary and secondary schools): nearly one-quarter of all Pakistanis in the city lived in White-majority neighbourhoods. Segregation was less extreme for the Indians, although the differentials were in the same direction – greater school than neighbourhood concentration. It was the same with the Black Caribbeans: 50 per cent of students attended White-minority primary schools (although compared with the Pakistanis, only 11 per cent were in schools where they predominated); 42 per cent were at White-minority secondary schools, most of them with no single minority ethnic group dominant; and 40 per cent were in White-minority neighbourhoods. Complementing this, whereas 29 per cent of Black Caribbeans attended White-majority primary schools and 44 per cent were at White-majority secondary schools, over half of all of the city's Black Caribbeans lived in White-majority neighbourhoods.

Luton is a much smaller city, but has a considerable ethnic mix: its 2001 population of 184,376 included 17,015 Pakistanis, 7,653 Black Caribbeans, 7,635 Bangladeshis and 7,538 Indians. Table 7 shows the distributions of three of those groups across the school and neighbourhood classifications. Contrasts in the levels of school and neighbourhood segregation are again clear: the Bangladeshis and, especially, the Pakistanis predominantly attend White-minority schools but substantially larger proportions of both groups live in White-majority neighbourhoods. Although most of the Black Caribbeans go to White-majority schools and live in White-majority residential areas, almost three times as many live in predominantly White (Type I) neighbourhoods as attend comparable primary schools.

Finally, Table 7 also gives data for three other cities where only two minority groups are of any size. Oldham had 13,755 Pakistanis and 9,818 Bangladeshis among its 217,314 residents in 2001. Both groups are highly segregated in the city's schools, especially the smaller primary schools (Oldham had 100 primary schools and 15 secondary schools in 2001), with fully 84 per cent of Pakistani primary school students attending Pakistani-majority Type V schools and 66 per cent of Bangladeshis at Bangladeshi-majority schools: in addition, almost two-thirds of Bangladeshi secondary school students were at Bangladeshi-majority schools. Residential segregation at the LLSOA scale was much less, especially when compared with the primary school situation. Finally, Derby and Nottingham (2001 populations of 221,766 and 266,974 respectively) show similar patterns, though much less marked for the Black Caribbeans than for the South Asian groups: all of Nottingham's Black Caribbean population lived in White-majority neighbourhoods, for example, although over a third of them attended White-minority schools. The only clear exception concerns Derby's Pakistani population, which is highly segregated both residentially and in terms of primary schools, but the majority of its secondary school students were at White-majority institutions.

SCHOOL AND RESIDENTIAL SEGREGATION COMPARED

The data discussed above indicate that school segregation is greater than residential segregation for all ethnic minority groups; in London, however, it is less for the White population. To provide a firmer foundation for these conclusions a series of regression models has been tested, linking levels of residential and school segregation and exploring whether the latter is greater than the former. In these, the dependent variables are the percentages of students at primary and at secondary schools attending schools of various types according to the classification used above, and the independent variables are the percentage of relevant population living in neighbourhoods of the same type. Although it is possible to argue a causal link in either direction – i.e. **either** residential segregation results from choice of school by parents **or** school segregation results from choice of residential area – we have deployed the latter here. A combination of disadvantage in labour and housing markets constrains many members of ethnic minority groups to certain parts of urban areas only, a constraint that may be accentuated by their wish to live among members of their communities. That latter wish may include a desire for their children to attend schools where students from similar ethnic groups form a substantial proportion of the total, but this is unlikely to be the major cause of residential choicer and segregation. Thus our models have residential segregation as the causal prior of school segregation. If – as the descriptive analyses reported above suggest – school segregation is shown to be greater than residential segregation, the implication to be drawn is that parental choice of where to enrol their students is generating greater school than neighbourhood ethnic polarisation.

For all of the regressions, we used data for the LLSOAs as indicators or residential segregation, as in the previous analyses. The variables are:

For Whites

The percentage in Type I neighbourhoods/schools; and
The percentage in Types I-II neighbourhoods/schools.

For non-Whites:

The percentage in Type V neighbourhoods/schools;
The percentage in Types IV-V neighbourhoods/schools;
The percentage in Type III-IV-V neighbourhoods/schools;

For both Whites and non-Whites, the first variable in the group looks at the most intensive segregation – percentages living in/attending schools that are ethnically most exclusive. The second (and third for non-Whites) also encompass the less exclusive – but still White or non-White majority respectively – areas.

The general form of the models tested was

$$SS_{ij} = a + b_1 RS_{ij} +/- b_2\ London_j \qquad (1)$$

where
SS_{ij} is the level of school segregation for group i in LEA j;
RS_{ij} is the level of residential segregation for group i in LEA j; and
$London_j$ is a dummy variable coded 1 if LEA j is in Greater London, and 0 otherwise.

The expectation for the ethnic minority groups was that the regression coefficient (b_1) would be greater than 1.0, indicating that for every percentage point increase in the level of residential segregation there would be an increase of more than one point in the level of school segregation. In addition, exploratory analyses suggested that school segregation was in general greater in the 32 Greater London LEAs than in

those outside the capital: to test for this a dummy variable was included in all of the models, coded 1 for the London Borough LEAs and 0 otherwise.

The results of these regressions are almost entirely consistent with the expectations, and provide firm evidence that school segregation is greater than residential segregation, especially outside London. For the three South Asian groups, Table 8 has not only a highly significant b_1 regression coefficient greater than 1.0 in 16 of the 18 regressions but also in most cases that coefficient is substantially larger than 1.0, indicating that school (especially primary school) segregation increases at a much more rapid rate than the associated residential segregation. Furthermore, only one of the constant terms (the *a* coefficients) is greater than 10, indicating that the level of school segregation exceeds that of residential segregation in most LEAs where more than a relatively small proportion of the minority group population lived in White-minority areas. Finally, in all cases the b_1 coefficients for primary schools are greater than those for their secondary counterparts. Not surprisingly, given their smaller average size and thus assumed smaller catchment areas, primary schools are more segregated than are secondary schools with regard to South Asian students.

Exactly the same pattern emerges from Table 9, which gives results for the regressions for the two main Black ethnic groups and also for the Black population in total. (No significant relationships were found for the heterogeneous Black Other category. Regressions are reported for the total Black population, because these tend to share spaces much more than do the three South Asian groups.) All but one of the b_1 coefficients is both highly significant statistically and greater than 1.0 (the exception is for Black Caribbeans in Types III-IV-V secondary schools), and in each comparison segregation is greater for primary than for secondary schools

A further general finding from Tables 8-9 is that school segregation is generally greater in London, relative to residential segregation, than it is elsewhere in the country. In Table 8, only three of the b_2 coefficients are statistically insignificant. All of the remainder in both tables are positive and the majority are large – the average for the 33 significant coefficients is 17.49, and only 6 are less than 10. (Those six exceptions all refer to the percentages of Blacks in Type V schools, which are generally small, as Table 1 indicates.)

Turning to the White population, Table 10 shows that, not surprisingly, the larger the percentage of Whites living in White-majority residential areas (either Type I alone or Type I and II together) the larger the percentages of White students attending White-majority schools. In each case, however, the b_1 regression coefficient is close to – though statistically significantly different from – 1.0, indicating relatively little difference between the levels of residential and school segregation, again not surprising given that in most LEAs the great majority of both population and students are from the White group.

More interestingly in Table 10 are the large, significant and negative b_2 coefficients for London, indicating a smaller differential between residential and school segregation among Whites in the capital's 32 LEAs than in the 117 elsewhere in the country. White students are less likely to attend White-majority schools in London than they are in a comparable LEA with the same level of residential segregation.

CONCLUSIONS

Ethnic segregation is not as extreme in England as it is in the United States. Nevertheless, the presence of distinct ethnic enclaves is a feature not only of London and other large cities (especially Birmingham) but also a number of other urban centres which have attracted substantial numbers of migrants in recent decades. Such relatively exclusive residential enclaves are much more a feature of the culturally more distinct South Asian immigrant groups and their descendants than they are for Black groups. In addition, the latter have been in Britain longer, on average, and have become more dispersed through the urban fabric, a process that is now developing for the South Asian groups as well (SIMPSON, 2004; see also JOHNSTON, POULSEN and FORREST, 2005b).

The existence of such patterns has been remarked upon in a variety of studies of the British urban scene in recent years. What has been largely ignored because of the absence of relevant data, however, is the degree of school segregation which accompanies – and could be driven by – this residential patterning. Using a recently-released data set which allows the ethnic composition of every school in England to be analysed, we have shown here that not only is there ethnic segregation in the country's primary and secondary schools but in addition – for both the South Asian populations and for the Black Caribbean and Black African populations – that school segregation is very substantially (and significantly) greater than is the case with residential segregation, with the latter being measured using data for a spatial scale commensurate to the catchment areas for primary schools at least. (Oldham, for example, had 100 primary schools and 144 census LLSOAs in 2001: Derby had 81 schools and 147 LLSOAs.)

The reasons for that greater level of school than residential segregation can only be the subject of speculation at this point. It could result in part (as suggested by data presented here) from differences in the age structure of the various ethnic groups: if the minority ethnic groups have relatively more school-age children than the White population, then in neighbourhoods where they dominate the population, they are likely to dominate the schools even more – to the extent that all attend the nearest establishment to their home. At present, this can only be a subject for further research, if data can be obtained for the relevant primary and secondary school age groups, by ethnicity, for the sub-ward units (such as the LLSOAs used in the formal analyses here) which are more suitable for studying residential segregation at commensurate scales to those of school catchment areas. It may also be possible to define school catchment areas precisely – the PLASC data are sufficiently detailed to allow this – and then allocate census areas (OAs) to them, although initial exploration shows that in most urban areas there is a complex pattern of overlapping catchment areas.

At this stage, therefore, it is not possible to evaluate whether these differences in age structure are sufficient to account for the greater levels of school than residential segregation – although the data cited here on the differences between the two forms of segregation suggest they are not: in East London, two-thirds of Bangladeshi students were at Bangladeshi-dominated schools but only one-quarter of Bangladeshis lived in Bangladeshi-dominated neighbourhoods. A further possible contribution to the differential could be parental choice. If parents prefer to send their children to schools with a particular ethnic mix rather than their local school, this could account for the

greater observed school segregation, with students, perhaps, being sent to schools in the relatively exclusive White and non-White districts of many towns and cities rather than more mixed local schools. This certainly appears to be the case in Bradford, where 44 per cent of White pupils were enrolled at their nearest primary school if it was of Type I (i.e. 80%+ White) in the classification deployed here, but only 20 per cent if their school was of Type V (i.e. with a Pakistani majority). Conversely, 45 per cent of Pakistanis were enrolled in their nearest primary school if it was of Type V, compared with 27 per cent if it was of Type I. This fragment of evidence suggests that the ethnic composition of the local school is a determinant of whether parents enrol their children there, but much more research is needed before any firm conclusions can be drawn.[12]

Whatever the reason for the greater school than residential segregation, the existence of the differential in those places which have large minority groups within their populations is of great interest with regard to the current arguments over the nature of England's multi-cultural society and the concept of citizenship. Many students from ethnic minorities live in relatively segregated neighbourhoods, and so their exposure to people from other cultures is relatively limited: that restriction is exacerbated in primary and secondary schools, where exposure to students from other cultures is even less. For whites, outside London their exposure to people from other cultures is low, and the exposure of their students to those other cultures at school is even lower.

If students attend segregated schools – especially primary schools – does this contribute to the 'fear, distrust and division' within society which CANTLE (2005) claims? The relative importance of home, neighbourhood and school in the formulation of cultural attitudes is unknown but if (as generally assumed; see DUNCAN, BROOKES-GUNN and ABER, 1997) local milieux are important contexts in that process, then the pattern of school segregation described here, and the processes by which that has come about, is crucial to an appreciation of the UK's evolving multi-cultural society and the tensions therein.

The research reported here has described the current situation with regard to neighbourhood and school segregation across England's 149 Local Education Authorities, providing clear evidence – at both primary (for the first time) and secondary school levels – that the country's schools are more segregated ethnically than the neighbourhoods from which they draw their students. More detailed analyses are needed to extend the picture we have drawn and, in particular, to tease out the reasons why that situation exists. At the same time, these findings raise important issues regarding the role of schools as important milieux in the formation of cultural values and attitudes, stimulating the need for a range of other types of intensive investigation which can identify the processes involved.[13]

NOTES

[1] On self-segregation among British ethnic minority communities see SIMPSON (2004, 2005) and PHILLIPS (2005).

[2] Bell claims that there are around 300 at present, including some 50 Jewish, 100 Muslim and 100 evangelical Christian schools. 'Faith schools' associated with religions such as Roman Catholic can also be used by Whites to segregate their children from non-Christian ethnic minority groups.

[3] The speech received substantial pre-presentation coverage in *The Sunday Times* (18 September, 2005); the quotations repeated here were taken from *Times Online* (http://www.timesonline.co.uk/ accessed 18 September 2005.
[4] We are grateful to a anonymous referee for suggesting this wording of the aspiration.
[5] See also the detailed analyses of two cities in HARRIS ET AL (2005)
[6] We confine the analyses to state schools only as the data from independent and other schools are incomplete. Further, many students board at independent schools, so that the link between neighbourhood and school segregation is irrelevant in such situations.
[7] The 'Mixed' category comprises 643,000 individuals according to the census – out of a total population of 49.2 millions. In terms of residential segregation, most of them live in predominantly White areas. In the PLASC data, less than five per cent of the students area reported as not falling within the following groups: White, Black Caribbean, Black African, Black Other, Indian, Pakistani, Bangladeshi, Chinese.
[8] An Upper Layer of Super Output Areas is proposed with an average population of c.26,000, but these have not yet been identified.
[9] The number of students in Type V schools with Bangladeshi or Black majorities is less than 0.05 per cent of the total.
[10] On the varied origins of the 'Black Other' group see STORKEY and LEWIS (1996).
[11] The populations of LLSOAs are closer to those of the average catchment area for a primary school than those of the smaller OAs, and their ethnicity data are less likely to have been manipulated to avoid confidentiality problems with data release.
[12] BURGESS ET AL (2004) have shown that 45 per cent of secondary school students nationally attend their nearest school.
[13] Issues regarding the possible influence of ethnically-segregated schools on student performance is another concern (see CLINE ET AL, 2002; JOHNSTON, BURGESS and WILSON, 2006)

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Table 1. The distribution of population and students in England, 2001, according to the classification in Figure 5. (The data are in percentages for each column, reported to the nearest whole number.)

	Total					White				
Type/Space	P	S	O	LO	MO	P	S	O	LO	MO
I	77	81	86	86	86	89	92	91	91	91
II	12	11	9	10	10	8	7	7	7	8
III	5	4	3	3	3	2	1	1	1	1
IV	3	2	1	1	0	0	0	0	0	0
V (Indian)	1	1	0	0	0	0	0	0	0	0
V (Pakistani)	2	1	0	0	0	0	0	0	0	0
V (Bangladeshi)	0	0	0	0	0	0	0	0	0	0
V (Caribbean)	0	0	0	0	0	0	0	0	0	0
V (African)	0	0	0	0	0	0	0	0	0	0
V (Black)	0	0	0	0	0	0	0	0	0	0

	Black					South Asian				
Type/Space	P	S	O	LO	MO	P	S	O	LO	MO
I	17	22	26	27	27	16	21	28	30	32
II	25	29	45	48	52	19	25	30	31	33
III	29	28	22	20	17	14	18	19	19	22
IV	20	9	3	4	3	15	12	6	6	5
V (Indian)	2	3	1	1	1	9	10	7	6	4
V (Pakistani)	1	1	1	1	1	22	9	8	7	4
V (Bangladeshi)	1	1	0	0	0	6	4	2	1	0
V (Caribbean)	2	0	0	0	0	0	0	0	0	0
V (African)	4	1	1	0	0	0	0	0	0	0
V (Black)	0	0	0	0	0	0	0	0	0	0

Key to Spaces: P – primary schools; S – secondary schools; O – Output Areas; LO – Lower-Layer Super Output Areas; MO – Mid-Layer Super Output Areas.
For key to Types, see text.

Table 2. The distribution of the Black population and of Black students in England, 2001, according to the classification in Figure 5.
(The data are in percentages for each column, reported to the nearest whole number.)

	Black Caribbean					Black African				
Type/Space	P	S	O	LO	MO	P	S	O	LO	MO
I	14	20	29	29	29	11	16	22	23	24
II	24	30	43	46	49	23	27	47	50	55
III	30	28	21	18	16	31	30	25	22	17
IV	23	10	4	4	3	21	10	3	3	2
V (Indian)	2	2	1	1	1	2	4	1	1	1
V (Pakistani)	2	1	1	1	1	1	1	0	0	0
V (Bangladeshi)	1	0	0	0	0	1	1	0	0	0
V (Caribbean)	3	1	0	0	0	0	1	0	0	0
V (African)	2	1	0	0	0	7	1	1	0	1
V (Black)	0	7	1	0	0	0	10	1	1	0

	Black Other					Other				
Type/Space	P	S	O	LO	MO	P	S	O	LO	MO
I	30	33	29	31	31	34	30	49	51	53
II	29	32	44	47	50	27	27	36	35	36
III	24	24	21	18	15	19	20	11	10	9
IV	12	5	3	3	3	13	17	2	2	2
V (Indian)	1	2	1	1	1	2	3	1	1	1
V (Pakistani)	1	0	1	1	1	3	2	1	1	1
V (Bangladeshi)	1	0	0	0	0	0	0	0	0	0
V (Caribbean)	0	0	0	0	0	0	0	0	0	0
V (African)	1	0	0	0	0	0	0	0	0	0
V (Black)	1	4	1	0	0	0	2	0	0	0

Key to Spaces: P – primary schools; S – secondary schools; O – Output Areas; LO – Lower-Layer Super Output Areas; MO – Mid-Layer Super Output Areas.
For key to Types, see text.

Table 3. The distribution of the Asian population and of Asian students in England, 2001, according to the classification in Figure 5.
(The data are in percentages for each column, reported to the nearest whole number.)

	Indian					Pakistani				
Type/Space	P	S	O	LO	MO	P	S	O	LO	MO
I	20	24	33	35	37	10	20	21	24	27
II	22	27	30	31	31	17	25	29	31	35
III	15	17	18	18	20	14	19	21	21	23
IV	16	10	5	5	4	13	12	6	6	5
V (Indian)	22	20	13	10	7	3	4	2	2	2
V (Pakistani)	4	1	1	1	1	42	20	20	17	9
V (Bangladeshi)	0	0	0	0	0	1	0	0	0	0
V (Caribbean)	0	0	0	0	0	0	0	0	0	0
V (African)	0	0	0	0	0	0	0	0	0	0
V (Black)	0	0	0	0	0	0	0	0	0	0

	Bangladeshi					Chinese				
Type/Space	P	S	O	LO	MO	P	S	O	LO	MO
I	12	17	20	22	24	59	64	63	66	67
II	14	17	30	33	36	21	21	28	27	27
III	13	17	21	23	29	12	10	7	6	6
IV	19	16	9	9	7	5	2	1	1	0
V (Indian)	1	2	1	1	1	1	1	0	0	0
V (Pakistani)	11	5	5	5	3	1	0	0	0	0
V (Bangladeshi)	30	25	14	9	1	1	0	0	0	0
V (Caribbean)	0	0	0	0	0	0	0	0	0	0
V (African)	0	0	0	0	0	0	0	0	0	0
V (Black)	0	0	0	0	0	1	0	0	0	0

Key to Spaces: P – primary schools; S – secondary schools; O – Output Areas; LO – Lower-Layer Super Output Areas; MO – Mid-Layer Super Output Areas.
For key to Types, see text.

Table 4. The residential distributions of ethnic groups by age, at the ward scale.

A. Ethnic group as a percentage of the population

	Total	Aged 5-9	Aged 10-17
White	86.9	86.7	87.1
Black Caribbean	1.1	1.1	1.2
Black African	1.0	1.5	1.2
Black Other	0.2	0.4	0.3
Indian	2.1	2.3	2.6
Pakistani	1.4	2.5	2.3
Bangladeshi	0.6	1.0	1.0

B. Ethnic group as a percentage of the ward population

	Total		Aged 5-9		Aged 10-17	
	Mean	SD	Mean	SD	Mean	SD
White	94.4	10.7	91.9	14.4	91.9	14.3
Black Caribbean	0.63	1.90	0.59	2.04	0.66	2.22
Black African	0.55	1.95	0.80	3.11	0.75	2.72
Black Other	0.11	0.33	0.20	0.73	0.20	0.67
Indian	1.28	3.96	1.35	4.39	1.52	4.80
Pakistani	0.78	3.33	1.19	4.84	1.16	4.71
Bangladeshi	0.32	2.01	0.56	3.36	0.57	3.39

C. Regression of ethnic group as a percentage of the ward population in each age group against its percentage of the total population

	Total: 5-9			Total: 10-17		
	a	b	r^2	a	b	r^2
White	-32.1	1.32	0.96	-31.6	1.31	0.96
Black Caribbean	0.06	1.03	0.93	0.06	1.15	0.94
Black African	0.06	1.55	0.95	0.01	1.55	0.95
Black Other	-0.03	2.01	0.83	-0.02	1.87	0.86
Indian	-0.04	1.08	0.95	-0.01	1.19	0.97
Pakistani	0.08	1.42	0.96	0.08	1.38	0.96
Bangladeshi	0.04	1.62	0.95	0.04	1.63	0.94

Table 5. The distribution of the various population and student groups in Greater London, 2001, according to the classification in Figure 5. (The data are in percentages for each column, reported to the nearest whole number.)

	White			Black			South Asian		
Type/Space	P	S	LO	P	S	LO	P	S	LO
I	38	42	51	4	6	12	5	6	14
II	37	38	42	25	31	59	15	19	42
III	17	15	7	37	36	25	22	22	27
IV	5	2	1	23	10	3	29	20	8
V (Indian)	1	1	0	2	3	1	13	20	7
V (Pakistani)	0	0	0	0	0	0	1	0	0
V (Bangladeshi)	1	0	0	1	1	0	14	11	3
V (Caribbean)	1	0	0	2	0	0	0	0	0
V (African)	0	0	0	6	1	1	0	0	0
V (Black)	0	2	0	0	11	0	0	3	0

	Black Caribbean			Black African			Black Other		
Type/Space	P	S	LO	P	S	LO	P	S	LO
I	4	6	12	4	6	12	7	8	12
II	22	29	59	24	29	61	33	37	61
III	38	35	24	36	35	24	36	37	24
IV	27	12	3	23	12	3	19	8	3
V (Indian)	1	4	1	2	4	1	1	2	1
V (Pakistani)	0	1	0	0	1	0	0	1	0
V (Bangladeshi)	1	0	0	1	1	0	1	0	0
V (Caribbean)	3	1	0	1	0	0	1	0	0
V (African)	4	1	0	9	2	0	1	0	0
V (Black)	0	12	0	0	12	0	1	7	0

	Indian			Pakistani			Bangladeshi		
Type/Space	P	S	LO	P	S	LO	P	S	LO
I	7	8	16	3	4	13	2	2	7
II	17	22	39	15	17	41	10	15	44
III	22	21	27	24	27	29	19	20	29
IV	28	16	7	43	32	12	22	19	7
V (Indian)	24	30	10	10	16	5	1	1	0
V (Pakistani)	0	0	0	3	1	0	0	0	0
V (Bangladeshi)	1	0	0	1	0	0	45	41	13
V (Caribbean)	0	0	0	0	0	0	0	0	0
V (African)	0	0	0	0	0	0	1	0	0
V (Black)	1	0	0	1	3	0	0	3	0

Key to Spaces: P – primary schools; S – secondary schools; LO – Lower-Layer Super Output Areas.
For key to Types, see text.

Table 6. The distribution of selected population and student groups in groups of Greater London LEAs, 2001, according to the classification in Figure 5. (The data are in percentages for each column, reported to the nearest whole number.)

	Tower Hamlets & Newham Bangladeshis			Northwest London Indians			Northeast London Pakistanis		
Type/Space	P	S	LO	P	S	LO	P	S	LO
I	0	0	1	3	4	8	1	1	4
II	4	6	27	14	17	37	7	9	29
III	10	12	37	22	19	34	19	25	38
IV	20	18	12	18	11	3	66	58	29
V (Indian)	0	0	0	43	49	19	0	7	0
V (Pakistani)	0	0	0	0	0	0	7	0	0
V (Bangladeshi)	67	63	24	0	0	0	1	0	0
V (Caribbean)	0	0	0	0	0	0	0	0	0
V (African)	0	0	0	0	0	0	0	0	0
V (Black)	0	0	0	0	0	0	0	0	0

Key to Spaces: P – primary schools; S – secondary schools; LO – Lower-Layer Super Output Areas.

For key to Types, see text.

Table 7. The distribution of selected population and student groups in selected LEAs, 2001, according to the classification in Figure 5. (The data are in percentages for each column, reported to the nearest whole number.)

	Birmingham								
	Indian			Pakistani			Black Caribbean		
Type/Space	P	S	LO	P	S	LO	P	S	LO
I	7	6	20	1	1	7	11	15	27
II	21	27	23	8	12	16	18	29	24
III	10	19	20	5	14	13	14	15	19
IV	41	22	24	16	18	15	39	29	22
V (Indian)	11	21	5	0	2	1	2	7	2
V (Pakistani)	10	4	9	68	52	49	5	6	8
V (Bangladeshi)	0	0	0	0	0	0	0	0	0
V (Caribbean)	1	0	0	0	0	0	11	0	0
V (African)	0	0	0	0	0	0	0	0	0
V (Black)	0	0	0	0	0	0	0	0	0

	Luton								
	Pakistani			Bangladeshi			Black Caribbean		
Type/Space	P	S	LO	P	S	LO	P	S	LO
I	2	2	9	1	6	10	11	14	32
II	18	24	25	28	25	26	68	76	52
III	6	0	35	2	47	27	9	0	12
IV	12	20	6	22	0	14	1	2	1
V (Indian)	0	0	0	0	0	0	0	0	0
V (Pakistani)	56	55	22	30	23	13	11	8	4
V (Bangladeshi)	6	0	2	18	0	9	0	0	0
V (Caribbean)	0	0	0	0	0	0	0	0	0
V (African)	0	0	0	0	0	0	0	0	0
V (Black)	0	0	0	0	0	0	0	0	0

	Oldham						Derby		
	Pakistani			Bangladeshi			Indian		
Type/Space	P	S	LO	P	S	LO	P	S	LO
I	7	22	15	4	8	13	21	17	38
II	4	29	25	11	24	10	51	54	35
III	4	0	19	0	0	40	4	29	19
IV	0	0	0	0	0	0	11	0	0
V (Indian)	0	0	0	0	0	0	0	0	7
V (Pakistani)	84	39	41	19	2	17	14	0	0
V (Bangladeshi)	1	11	1	66	65	21	0	0	0
V (Caribbean)	0	0	0	0	0	0	0	0	0
V (African)	0	0	0	0	0	0	0	0	0
V (Black)	0	0	0	0	0	0	0	0	0

	Derby			Nottingham					
	Pakistani			Pakistani			Black Caribbean		
Type/Space	P	S	LO	P	S	LO	P	S	LO
I	4	5	9	3	5	33	25	40	61
II	6	51	16	34	67	62	40	52	39
III	3	44	40	35	28	5	26	8	0
IV	9	0	0	0	0	0	0	0	0
V (Indian)	0	0	0	0	0	0	0	0	0
V (Pakistani)	78	0	35	25	0	0	5	0	0
V (Bangladeshi)	0	0	0	0	0	0	0	0	0
V (Caribbean)	0	0	0	0	0	0	0	0	0
V (African)	0	0	0	0	0	0	0	0	0
V (Black)	0	0	0	2	0	0	4	0	0

Table 8. Results of regression of residential on school segregation (model 1 in the text) for South Asian ethnic groups. Standard errors for the coefficients are given in brackets, and significant coefficients at the 0.05 level or better are shown in bold.

	a	b_1	b_2	R^2
Indian				
Type V schools				
Primary	**2.9**	**1.64**	1.97	0.69
	(0.88)	(0.09)	(1.85)	
Secondary	-0.77	**1.07**	**12.12**	0.55
	(0.91)	(0.09)	(1.91)	
Type IV-V Schools				
Primary	**4.36**	**1.57**	**13.41**	0.68
	(1.22)	(0.10)	(2.57)	
Secondary	-0.65	**1.24**	**16.08**	0.67
	(1.05)	(0.08)	(2.21)	
Types III-IV-V Schools				
Primary	**5.58**	**1.06**	**27.03**	0.75
	(1.50)	(0.07)	(3.24)	
Secondary	1.24	**0.96**	**29.91**	0.71
	(1.58)	(0.07)	(3.41)	
Pakistani				
Type V Schools				
Primary	**7.18**	**1.79**	-2.43	0.61
	(1.42)	(0.12)	(2.90)	
Secondary	0.02	**1.08**	**10.85**	0.49
	(1.16)	(0.10)	(2.35)	
Type IV-V Schools				
Primary	**9.44**	**1.72**	**10.94**	0.58
	(1.81)	(0.12)	(3.70)	
Secondary	-0.14	**1.26**	**18.02**	0.60
	(1.42)	(0.10)	(2.88)	
Type III-IV-V Schools				
Primary	**10.99**	**1.14**	**24.42**	0.68
	(2.10)	(0.08)	(4.19)	
Secondary	1.14	**0.91**	**34.04**	0.67
	(1.99)	(0.07)	(3.96)	
Bangladeshi				
Type V Schools				
Primary	**4.58**	**1.84**	1.12	0.58
	(1.41)	(0.13)	(2.84)	
Secondary	-0.42	**1.08**	**11.25**	0.42
	(1.23)	(0.11)	(2.49)	
Type IV-V Schools				
Primary	**6.38**	**1.74**	**15.42**	0.64
	(1.78)	(0.11)	(3.56)	
Secondary	-0.55	**1.16**	**20.65**	0.53
	(1.61)	(0.10)	(3.23)	
Type III-IV-V Schools				
Primary	**9.27**	**1.20**	**23.55**	0.67
	(2.14)	(0.08)	(4.29)	
Secondary	0.03	**1.05**	**31.81**	0.74
	(1.78)	(0.07)	(3.53)	

Table 9. Results of regression of residential on school segregation (model 1 in the text) for Black ethnic groups. Standard errors for the coefficients are given in brackets, and significant coefficients at the 0.05 level or better are shown in bold.

	a	b_1	b_2	R^2
Black Caribbean				
Type V Schools				
Primary	0.84	**1.45**	**3.59**	0.48
	(0.45)	(0.14)	(0.92)	
Secondary	0.05	**1.39**	**8.24**	0.34
	(0.73)	(0.22)	(1.49)	
Type IV-V Schools				
Primary	1.52	**1.97**	**15.14**	0.59
	(0.97)	(0.17)	(2.04)	
Secondary	-0.49	**1.72**	**12.53**	0.56
	(0.91)	(0.16)	(1.90)	
Type III-IV-V Schools				
Primary	**3.84**	**1.12**	**28.36**	0.62
	(1.56)	(0.11)	(3.56)	
Secondary	1.16	**0.99**	**28.73**	0.67
	(1.50)	(0.10)	(3.42)	
Black African				
Type V Schools				
Primary	**1.70**	**2.36**	**3.42**	0.64
	(0.64)	(0.15)	(1.32)	
Secondary	-0.17	**1.59**	**9.53**	0.44
	(0.77)	(0.18)	(1.61)	
Type IV-V Schools				
Primary	**3.28**	**2.24**	**13.86**	0.59
	(1.14)	(0.18)	(2.39)	
Secondary	0.01	**1.66**	**14.63**	0.55
	(1.10)	(0.16)	(2.12)	
Type III-IV-V Schools				
Primary	**5.15**	**1.30**	**22.31**	0.73
	(1.46)	(0.09)	(3.36)	
Secondary	1.14	**1.15**	**25.78**	0.74
	(1.39)	(0.09)	(3.21)	
Total Black				
Type V Schools				
Primary	**1.09**	**2.07**	**3.43**	0.62
	(0.50)	(0.14)	(1.05)	
Secondary	-0.25	**1.66**	**8.70**	0.42
	(0.72)	(0.20)	(1.50)	
Type IV-V Schools				
Primary	**1.99**	**2.09**	**14.39**	0.64
	(0.93)	(0.16)	(1.96)	
Secondary	-0.42	**1.71**	**13.55**	0.57
	(0.92)	(0.16)	(1.92)	
Type III-IV-V Schools				
Primary	**4.28**	**1.20**	**24.55**	0.72
	(1.41)	(0.09)	(3.27)	
Secondary	1.06	**1.08**	**26.86**	0.72
	(1.39)	(0.09)	(3.21)	

Table 10. Results of regression of residential on school segregation (model 1 in the text) for the White population. Standard errors for the coefficients are given in brackets, and significant coefficients at the 0.05 level or better are shown in bold.

	a	b_1	b_2	R^2
Type I Schools				
Primary	-1.27	**0.96**	**-15.14**	0.93
	(3.96)	(0.04)	(2.59)	
Secondary	-10.23	**1.07**	**-13.12**	0.91
	(4.94)	(0.05)	(3.23)	
Type I-II Schools				
Primary	-2.41	**1.02**	**-22.01**	0.67
	(12.12)	(0.12)	(2.31)	
Secondary	-3.19	**1.03**	**-22.32**	0.63
	(13.51)	(0.14)	(2.56)	

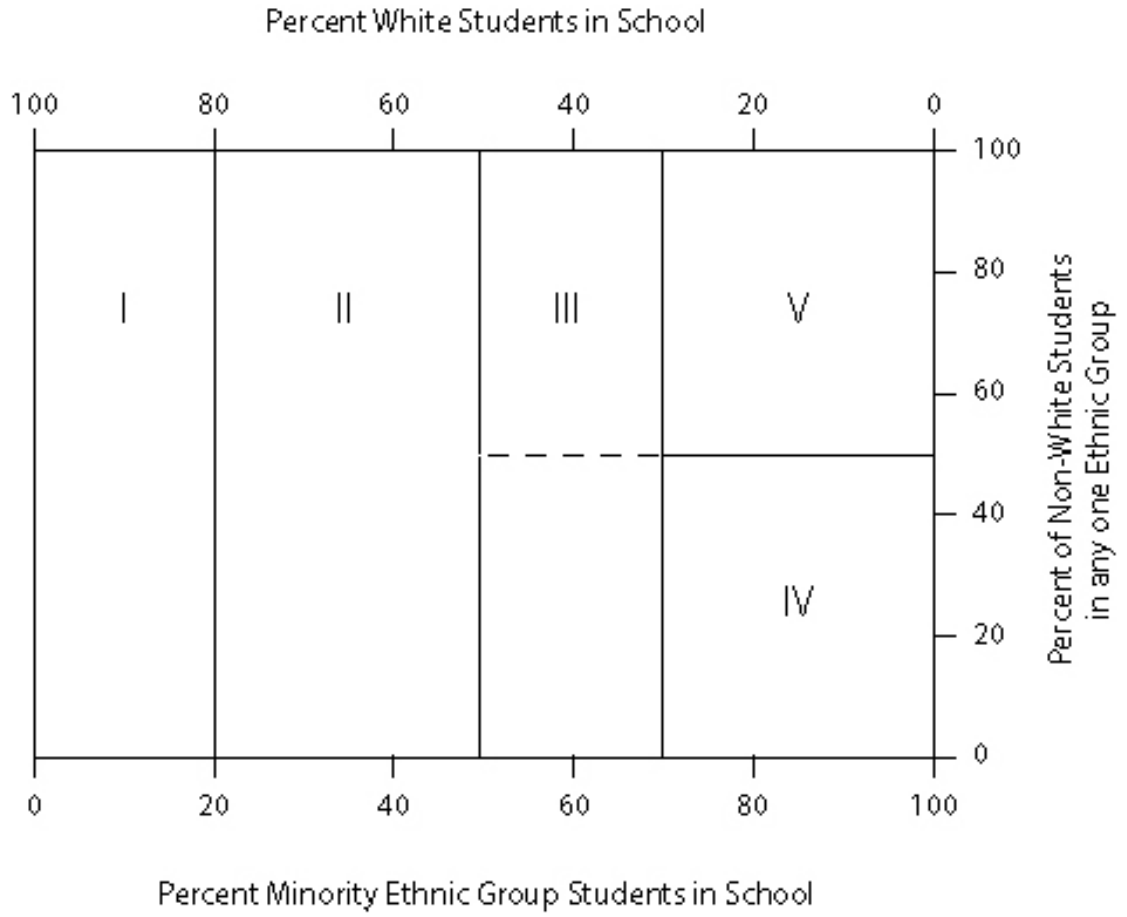

Figure 1. The classification scheme for schools according to the ethnic composition of their enrolment.