

Samples of Anonymised Records

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SARs Ethnicity Guide

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SARs

samples of
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This document is based upon the datasets and documentation deposited in the UKDA, Office for National Statistics and ESDS Government. Other sources are also cited where appropriate.

The author would like to thank Office for National Statistics, the UKDA and ESDS Government for using the information in their sites. To see the individual links please go to the following links:

<http://www.statistics.gov.uk/CCI/SearchRes.asp?term=ethnicity>

http://www.data-archive.ac.uk/search/allSearch.asp?ct=xmlAll&q1=ethnicity&zoom_and=1

<http://www.esds.ac.uk/government/resources/>

<http://www.esds.ac.uk/government/themes/ethnicity/index.asp>

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1. Introduction

Ethnicity describes ancestry, heritage, religion, culture, nationality, language and region. As such, we all have ethnic identities. The changing nature of migration and the increase in travel and transportation are challenges to the idea that ethnicities are fixed. Understanding people's ethnicity and their sense of identity is a key to understanding many current social and economic trends.

Collecting data on ethnicity is a challenge because of the subjective, multi-faceted and changing nature of ethnic identification. However, in ethnic identity questions, we need to be able to base ethnic classification upon objective and quantifiable information.

In this guide, we review the ethnicity classifications available in SARs datasets for different countries of the UK. We also consider some of the problematic issues of the sample size, categorisation and change in classifications between 1991 and 2001 across the UK countries. Ethnic groups' questions will also be discussed. There are some useful links which provide information relevant to ethnicity.

2. SARs files

Individual Licensed SAR

The 2001 Individual Licensed SAR consists of a 3 per cent sample of individuals with some grouping of variables, relating to some 1.8 million people in the UK. For each person it contains the main demographic, health and socio-economic variables and derived variables e.g. social class, household information and data on sex, economic position and social class of the individual's family head. Geography area identification is at Government Office Region level in England and at country level for Wales, Scotland and Northern Ireland. For details of the specification see www.ccsr.ac.uk/sars/2001/.

Special Licence Household SAR

The Household SAR consists of a 1 per cent hierarchical sample of households for England and Wales only. It has around 245,000 household records together with information on individuals within those households. For each household it contains the main variables and derived variables as for the Individual SAR with additional household information such as size of household. For details of the specification see www.ccsr.ac.uk/sars/2001/hhold/.

Small Area Microdata (SAM)

The SAM contains information for the whole of the UK and is a similar dataset to the Individual SAR. It consists of a 5 per cent sample and around 2.9 million individual records with geography area identification at local authority level for England, Wales and Scotland and Parliamentary Constituencies for Northern Ireland. For details of the specification see www.ccsr.ac.uk/sars/2001/sam/.

Individual Controlled Access Microdata Sample (CAMS)

The Individual CAMS provided in-house is the same 3 per cent sample of individuals as the Individual SAR with full detail for most variables and at much greater detail than the 1991 SARs. Index of multiple deprivation (IMD) scores are available for England and Wales and Northern Ireland. IMD deciles are provided for Scotland. A number of other derived variables are also available such as household membership and family composition. It contains geographical identification to local authority level, apart from the smallest areas (City of London, Isles of Scilly and some Scottish areas). For details of the variables and codes see <http://www.ccsr.ac.uk/sars/2001/indiv-cams/codebook/>.

Household Controlled Access Microdata Sample (CAMS)

The Household CAMS provided in-house is the same 1 per cent hierarchical sample of households as the Household SAR but also includes records for Scotland and Northern Ireland. It has limited groupings of variables allowing comparability with the publicly available 1991 Household SAR. The same IMD information, other derived variables and geography detail have been applied to this file as for the Individual CAMS. It also contains additional household derived variables for specific household analysis. For details of the variables and codes see www.ccsr.ac.uk/sars/2001/hhold-cams/codebook/

3. What constitutes ethnicity?

In the UK ethnic minority populations are commonly based on a combination of categories including: 'race', skin colour, national and regional origins and language. Bulmer's (1996) definition of an ethnic group is as follows:

An ethnic group is a collectivity within a larger population having real or putative common ancestry, memories of a shared past, and a cultural focus upon one or more symbolic elements which define the group's identity, such as kinship, religion, language, shared territory, nationality or physical appearance. Members of an ethnic group are conscious of belonging to an ethnic group.

Berthoud, Modood and Smith (1997) define ethnic group as follows:

... a community whose heritage offers important characteristics in common between its members and which makes them distinct from other communities. There is a boundary, which separates 'us' from 'them', and the distinction would probably be recognised on both sides of that boundary. Ethnicity is a multi-faceted phenomenon based on physical appearance, subjective identification, cultural and religious affiliation, stereotyping, and social exclusion.

The ethnicity question in the UK Census/SARs reflects this complexity and problem of definition in its juxtaposition of categories of colour (e.g. White, Black), nationality (e.g. British, African), combinations of the two (White British), identities legally recognised as racial identities such as Jewish and Sikh and the introduction of new Mixed categories such as it was the case in 2001. More generally, the language used to describe ethnic minority populations varies and changes. For example, such terms as 'black' and 'minority ethnic', 'ethnic minority' and 'ethnic groups' are used somewhat interchangeably. Moreover, the key organisation in the UK in campaigning for equality in this area is the equality and human rights commission and the primary laws are the *Race Relations Acts*.

4. Differences in ethnic classifications between UK countries in the 2001 Individual Licensed SAR

There are differences in ethnic classifications between England and Wales, Scotland and Northern Ireland, resulting in separate output classifications.

Table 1: Ethnic group classifications and number of cases for different countries of the UK in the individual SARs 2001

England/Wales	Number of cases	Scotland	Number of cases	Northern Ireland	Number of cases
White					
White British	1409835	White Scottish	143671	White	51760
White Irish	19633	White Irish	12029	-----	
Other white	41351	Other white	1579	-----	
-----		Other White British	2508	-----	
Mixed					
White and Black Caribbean	7252	-----		-----	
White and Black African	2485	-----		-----	
White and Asian	5740	-----		-----	
Any other Mixed	4807	Any other Mixed	415	-----	
Asian or Asian British					
Indian	31894	Indian	477	-----	
Pakistani	22188	Pakistani	1022	-----	
Bangladeshi	8703	Bangladeshi	70	-----	
Any other Asian	7401	other South Asian	201	-----	
Black or Black British					
Caribbean	17396	Caribbean	64	-----	
African	14909	African	144	-----	
Any other Black	2957	Black Scottish and other Black	29	-----	
Chinese or other ethnic group					
Chinese	7030	Chinese	550	-----	
Any other ethnic group	6797	Any other ethnic group	312	Non-White	386
Total	1610378		163071		52146

Table 2: Ethnic group classifications for different countries of the UK in different SARs files

Variables	1991 SAR	2001 Individual Licensed SAR	2001 SAM
Ethnic group	ETHGROUP 10 categories, the Same in England, Wales and Scotland. No question was Asked in Northern Ireland.	ETHEW England and Wales - 16 categories ETHS Scotland - 14 categories ETHN Northern Ireland - 2 Categories Categories differ between each country.	ETHEWA Ethnic Group for England and Wales - 13 categories ETHSA Ethnic Group for Scotland - 8 categories ETHN Ethnic Group for Northern Ireland - 2 categories
Variables	Special Licence Household SAR	Individual Controlled Access Microdata Sample (CAMS)	Household Controlled Access Microdata Sample (CAMS)
Ethnic group	England and Wales - 16 categories	ETHEWX Ethnic Group for England and Wales - 16 categories ETHSX Ethnic Group for Scotland - 14 categories ETHNX Ethnic Group for Northern Ireland - 12 categories	ETHEWX Ethnic Group for England and Wales - 16 categories

5. Differences of ethnicity questions between the 1991 and 2001 Censuses

There are some important differences between the 1991 and 2001 Censuses that have implications for all users. These are fully spelt out in the Census 2001 Definitions volume which can be downloaded free of charge from www.statistics.gov.uk/census2001/cn_108.asp or ordered from HMSO.

The ONS classification for the 2001 Census is based around two types of questions: one on ethnicity and the other on nationality. Different versions of the ethnicity question were asked in England and Wales, in Scotland and in Northern Ireland, to reflect local differences in the requirement for information. This again can make comparison difficult. A balance must be found between consistency over time and inclusion of questions relevant to contemporary society. See Appendix A for question wording in each country of the UK in 2001 Census.

The 2001 questions on ethnic group in England and Wales and in Scotland were more detailed than the question asked in 1991. In 1991 there was one category for 'White' and no category for 'Mixed'. In 2001 'White' was split into three categories in England and Wales and into four categories in Scotland; and there were four categories of 'Mixed' in England and Wales and one category in Scotland.

An ethnic group question has been asked in two successive population Censuses. It was first asked in the 1991 Censuses in England, Scotland and Wales and was then repeated in the 2001 Census in all four countries of the United Kingdom, including Northern Ireland. Differences in the ethnic group questions, coding and in the methods for treatment of under-enumeration complicate the making of direct comparisons between 1991 and 2001.

England, Wales and Scotland all asked the same ethnic group question in 1991. Northern Ireland did not include an ethnic group question in 1991. All four countries included an ethnic group question in their 2001 Census but the questions in Scotland and Northern Ireland each differed from the England and Wales question. England, Wales and Scotland increased the number of ethnic group categories, adding new White categories and Mixed categories in 2001: Scotland included four White categories and one Mixed category; England and Wales included three White categories and four Mixed categories. Northern Ireland presented one White category and one Mixed category but included a new ethnic group category for 'Irish Traveller'. See the actual wording of the questions in Appendix A.

Table 3: Comparison of ethnic group categories in 1991-2001 Census (Simpson and Akinwale, 2006)

Compatible category	1991 categories	2001 categories
White	White	White – all three sub-categories (four in Scotland)
Black Caribbean	Black – Caribbean	Black or Black British – Black Caribbean
Black African	Black – African	Black or Black British – Black African
Indian	Indian	Asian or Asian British – Indian
Pakistani	Pakistani	Asian or Asian British – Pakistani
Bangladeshi	Bangladeshi	Asian or Asian British – Bangladeshi
Chinese	Chinese	Chinese or Other Ethnic Group – Chinese
Other (not comparable over time)	Black – Other Other – Asian Other – Other	Mixed – all four sub-categories (one in Scotland) Black or Black British – Other Black Asian or Asian British – Other Asian Chinese or Other Ethnic Group – Other Ethnic Group

Simpson and Akinwale (2006) report the seven categories above with most stability for individuals between 1991 and 2001.

Table 4: population by ethnic group, 1991¹ and 2001

England and Wales	1991		Thousands and percentages 2001	
Ethnic group	Number	%	Number	%
White	47,876.6	94.1	47,520.9	91.3
British ²			45,533.7	87.5
Irish ²			641.8	1.2
Other White ²			1345.3	2.6
Mixed			661.0	1.3
White and Black Caribbean ³			237.4	0.5
White and Black African ³			78.9	0.2
White and Asian ³			189.0	0.4
Other Mixed ³			155.7	0.3
Asian or Asian British	1,689.4	3.3	2,273.7	4.4
Indian	855.1	1.7	1,036.8	2.0
Pakistani	469.0	0.9	714.8	1.4
Bangladeshi	166.6	0.3	280.8	0.5
Other Asian ³	198.7	0.4	241.3	0.5
Black or Black British	916.9	1.8	1,139.6	2.2
Black Caribbean	514.0	1.0	563.8	1.1
Black African	220.1	0.4	479.7	0.9
Other Black	182.8	0.4	96.1	0.2
Chinese or other ethnic groups	442.1	0.9	446.7	0.9
Chinese	152.3	0.3	226.9	0.4
Any other ethnic group	289.8	0.6	219.8	0.4
All ethnic groups	50,888.1	100.0	52,041.9	100.0

1. 1991 data have been adjusted for census under-enumeration using OPCS/GRO(S) 1994 adjustment factors
2. The sub-categories under the White heading; White British, White Irish and Other White were offered to respondents in England & Wales for the first time in 2001.
3. The Mixed and Other Asian ethnic category were offered to respondents in England & Wales for the first time in 2001. In 1991, Other Asian was created from write-in responses to Any Other Ethnic Group.
4. Not applicable

Sources: 1991 Census Local Base Statistics, ONS, Crown Copyright, Reserved [from Nomis on 19 April 2005] adjusted with OPCS/GRO(S) adjustment factors as cited in OPCS/GRO(S) (1994) Undercoverage in Great Britain: 1991 Census User Guide 58 (Table 7); Census, April 2001, Office for National Statistics.

Derived variables - We have also compiled some recodes of [Ethnicity](#) and related variables which allow comparison with equivalent information in other datasets. The areas covered are currently country of birth, socio-economic classifications and NSSEC. You can find syntax and a file on how to derive these variables through the following links.

- [Country of Birth](#)
- [SOC](#)
- [NS-SEC, SEG and RGClass](#)
- [Ethnicity](#)

Similar derived variables for the government surveys are provided by [ESDS Government](#).

Relevant but inadequate variables in research on ethnicity

Country of birth: For many years, the only statistics regularly available in Britain were based on people's country of birth. This was of limited reliability since the settler population was very diverse. As second and third generation children have been born since the main periods of migration, a person's country of birth has become increasingly less relevant.

Religion: For some ethnic minorities, such as the Indian, Pakistani and Bangladeshi populations, religion is one of the important defining characteristics. For this reason, a question on religion was included on the 2001 UK Census. Yet the definition of religion is widely disputed and there is considerable diversity within religious groups.

By using SARs, we can derive new variables that take into account some different dimensions of ethnicity. For example, ethno-religious groups can be made of ethnicity and religion variables. There is a huge research interest to reveal the impact of religious affiliation on various social outcomes. This is also true for understanding of those outcomes across generations. Using country of birth variable may distinguish the pattern of relationships between ethnicity and social outcomes for first and second generations or for those who born in the UK versus non-UK born.

6. Changes to ethnic identification

Analysis of ONS Longitudinal Study (LS) data on reporting of ethnicity by the same individuals in 1991 and 2001 in England and Wales showed that the following main ethnic groups can be reliably compared between 1991 and 2001: White, Indian, Pakistani, Bangladeshi and Chinese. The Black African and Black Caribbean groups exhibit less stability between Censuses than the other main groups, but will be sufficiently stable for many comparative analyses. The 'Other' ethnic groups of 1991 and 2001 all exhibit very low stability and are not suitable for comparison. Analysis was also conducted using data from the Labour Force Survey (LFS) in 2000/01, when respondents were asked to provide their ethnic group using the 1991 categories in the Winter 2000 wave and using the 2001 categories in the Spring 2001 wave. This indicated greater stability for all groups from one LFS wave to the next than from the 1991 to 2001 Censuses. By far the largest differences occurred for the Black African and Black Caribbean groups whose stability of self-identification was much greater between LFS waves than between the 1991 and 2001 Censuses (Simpson and Akinwale, 2006).

Table 5: Ethnic group identification among LS members in the 1991 and 2001 censuses

England and Wales		2001															Percentages
1991	White			Mixed				Asian or Asian British			Black or Black British			Chinese or other ethnic group		All ethnic groups	
	White British	White Irish	Other White	White and Black Caribbean	White and Black African	White and Asian	Other Mixed	Indian	Pakistani	Bangladeshi	Other Asian	Black Caribbean	Black African	Other Black	Chinese	Other ethnic group	All ethnic groups
White	96.8	1.2	1.4	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100
Indian	1.8	0.1	0.4	0.0	0.1	0.6	0.2	91.0	0.6	0.1	4.4	0.2	0.3	0.0	0.0	0.2	100
Pakistani	2.2	0.0	0.2	0.0	0.0	0.8	0.1	1.1	91.9	0.3	3.1	0.0	0.2	0.0	0.0	0.1	100
Bangladeshi	2.4	0.0	0.0	0.0	0.0	0.5	0.2	1.0	0.8	93.4	1.5	0.0	0.0	0.0	0.0	0.0	100
Other Asian	3.3	0.0	0.6	0.2	0.0	2.3	4.3	14.7	4.9	0.9	33.6	0.7	1.3	1.2	2.8	29.1	100
Black Caribbean	6.0	0.3	0.6	5.7	0.2	0.0	0.8	0.2	0.1	0.0	0.4	77.2	0.6	7.8	0.0	0.0	100
Black African	6.8	0.3	0.9	0.7	3.3	0.0	1.1	1.9	0.3	0.4	0.6	2.4	77.4	3.4	0.0	0.4	100
Other Black	12.0	0.3	3.1	32.1	6.4	1.6	5.3	1.9	1.6	0.7	1.7	20.6	3.1	8.3	0.0	1.1	100
Chinese	2.1	0.0	0.0	0.0	0.0	0.5	1.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	91.0	4.3	100
Other	15.2	0.2	9.8	14.6	3.8	17.2	9.9	3.9	3.3	0.6	6.9	3.3	1.0	1.7	1.3	7.0	100
All ethnic groups	91.3	1.1	1.4	0.3	0.1	0.2	0.2	2.0	1.0	0.4	0.3	0.8	0.3	0.1	0.3	0.2	100

Notes:

(1) Percentages based on LS members in the 1991 and 2001 Censuses

(2) Includes LS members with imputed ethnicity

(3) Rows may not add to 100 per cent due to rounding

Source: ONS Longitudinal Study

7. Ethnic group imputation for the 1991 and 2001 Censuses

All censuses experience some non-response, either for persons or households ('under-enumeration') or for particular questions on returned census forms ('item non-response'). Non-response carries a risk of introducing bias to estimates in the case that the characteristics of non-responders are very different to the characteristics of responders. Imputation is undertaken both to correct population totals for underenumeration and to correct for non-response bias. Imputation was undertaken differently in 1991 and 2001.

In 1991, data were imputed only where missing on returned Census forms or where households or individuals were *known or estimated by enumerators in the field* to have been missed. This occurred where Census enumerators in the field were aware of the existence of particular people or households but was unable to obtain completed Census forms from them. In 1991, adjustment factors were calculated which could be applied to previously published census counts.

In 2001, imputation was more extensive. In addition to the two types of imputation undertaken in 1991; information about the known characteristics of respondents was used to produce estimates of all households and individuals believed to have been missed from Census enumeration. Records of missing individuals, with imputed characteristics, were then created. These records were added to the Census database to produce fully enumerated population estimates. The differences in the treatment of non-responding units have important implications for users wishing to compare 1991 and 2001 Census data. This is discussed in the following sections. In 2001, the One Number Census (ONC) project was designed from the beginning to enable the integration of census counts with the estimated level of under-enumeration. Households and persons estimated to have been missed by the census were imputed to produce a fully adjusted census database at the time of publication.

Under-enumeration and imputation in the 1991 Census

Ethnic group was imputed on 1.2 per cent of returned Census forms in 1991 where ethnic group data were missing or invalid. The method of imputation consisted of inferring the value from a series of tables reflecting the relationship between the item to be imputed and other Census variables.

Households and individuals were imputed where a Census enumerator indicated that a non-responding household existed. Records for the household and individuals were imputed by copying data from donor records. The donor records were selected with regard to the type of area, the number of people in the household recorded or estimated by the enumerator, the number of rooms recorded or estimated by the enumerator, and whether accommodation was self-contained. In total, 1.6 per cent of all households and 869,098 persons were imputed. Of all imputed persons, 13.2 per cent were allocated to an ethnic minority group. This was a much larger proportion than was reflected in the relative overall size of the ethnic minority population. Imputed persons represented 3.8 per cent of all ethnic minority records compared with 1.6 per cent of total records. No further imputation was undertaken to correct for household non-response.

The results indicated that undercoverage varied by age, sex and area type. Undercoverage was greater among those aged 0-4, 20-34 and 85 and over. Men were more likely to be under-represented in the 20-34 age band and women were more likely to be under-represented in the 85 and over group. Undercoverage was greater in urban areas and greatest in London (Bulmer M, 1996).

Adjustment factors for application to 1991 Census counts

In 1994, OPCS/GRO(S) published User Guide 58, which presented adjustment factors for estimated undercoverage in the 1991 Census and explained how the adjustment factors should be used. Adjustment factors were produced for various area types and age/sex bands. From these, adjustment factors for ethnic groups were derived. Users were advised to apply the adjustment factors to published figures.

Adjustment factors are larger for young people, particularly young men, and larger for people living in urban areas. Adjustment factors derived for ethnic minority populations are larger than those for the White population because ethnic minority populations have a younger age profile and are concentrated in urban areas. For example, the overall adjustment factor for all persons in Great Britain is 1.02 but this rises to 1.10 for Black Caribbeans aged 25 to 29 years and rises further to 1.16 for Black Caribbean men aged 25 to 29 years.

Table 6 shows the results when the Estimating with Confidence Project adjustment factors are applied to ethnic populations in England and Wales. The adjusted population figures are produced by, '*multiplying the published Census count for every ethnic group in an age-sex category for a local area, by the relevant adjustment factor, and summing the results for every local area in England and Wales to give an adjusted count for the total population of that ethnic group*'. (Simpson S, Cossey R, and Diamond I, 1997)

Table 6 Implications of the 1991 Census undercount

England and Wales			Numbers
Ethnic group	Published census count of residents	Total population including estimated undercount	Overall adjustment factor
White	46,938,466	47,935,395	1.021
Black Caribbean	499,325	518,465	1.038
Black African	209,665	220,603	1.052
Black Other	175,493	184,062	1.049
Indian	829,966	856,474	1.032
Pakistani	455,443	474,364	1.042
Bangladeshi	161,626	167,618	1.037
Chinese	146,156	152,365	1.042
Other Asian	192,857	200,043	1.037
Other ethnic group	281,496	293,077	1.041
All groups	49,890,483	51,002,465	1.022

Source: Simpson S (1996) *Non-response to the 1991 Census: the effect on ethnic group enumeration*, p66, in Coleman D and Salt J *Ethnicity in the 1991 Census, Volume One; Demographic Characteristics of the Ethnic Minority Populations*, HMSO, London

Under-enumeration and imputation on the 2001 Census

Despite every effort it was always accepted that the 2001 Census would not fully enumerate the population and that some imputation would be required if Census results were to cover the entire population. The One Number Census (ONC) project was designed from the beginning to enable the integration of Census counts with the estimated level of under enumeration.

The ONC process resulted in 3.2 million people being imputed in England and Wales. For information about ethnic group in particular, there were two types of missing information requiring imputation, item imputation and person imputation.

Item Imputation in 2001

An answer to the ethnic group was imputed on 2.9 per cent of returned Census forms. This is known as *item imputation*. It was undertaken where an answer to the ethnic group question was missing or invalid. Eighty-nine per cent of imputed ethnic group items were assigned to a White group but this proportion was less than their share of the general population (92 per cent). Item imputation was higher for ethnic minority groups, relative to their size in the general population. An Asian ethnic group was assigned for 6 per cent of imputed records while Asian people comprised 4 per cent of the population. Three per cent of imputed ethnic group records were assigned to a Black group, while Black groups comprised less than 2 per cent of the population.

Item imputation was carried out using the Donor Imputation System. This procedure involves searching for a single donor household to supply all the missing variables in a recipient household.

Person imputation in 2001

In addition to the imputation of individual items on returned census forms, complete record for households and individuals were also imputed, using a similar process to the donor imputation system. The Census Coverage Survey indicated that people from non- White ethnic groups were more likely than their White counterparts to be missed by the Census. Consequently, people from ethnic minority groups formed a larger proportion of imputed cases, relative to their sizes in the general population.

Table 7 shows the distribution of imputed records across ethnic groups and the imputation rate for each ethnic group in England and Wales. Up to 29 per cent of imputed records were classified to an ethnic group other than White British. This was more than double the proportion of the total population from an ethnic group other than White British.

Although only 6.2% of the total Census population were imputed, the percentage of an individual ethnic group who were imputed was often much greater. In some ethnic minority groups more than one in five people were imputed. The Black African population in particular, who are largely based in London, had high rates of under-enumeration and consequently 29% of the Black African population were imputed. For tables of imputation rates see http://www.statistics.gov.uk/census2001/imputation_rates_by_variable.asp.

Table 7 2001 Census imputation distribution and imputation rate by ethnic group

England and Wales			Percentages
Ethnic group	Percentage of all imputed records	Percentage of the general population	Person imputation rate (per cent)
British	71.1	87.5	5.0
Irish	1.6	1.2	8.0
Other White	4.1	2.6	10.0
White and Black Caribbean	0.6	0.5	8.8
White and Black African	0.2	0.2	10.1
White and Asian	0.4	0.4	7.4
Other Mixed	0.4	0.3	8.9
Indian	4.5	2.0	14.1
Pakistani	3.6	1.4	16.2
Bangladeshi	2.1	0.5	24.2
Other Asian	0.7	0.5	9.2
Black Caribbean	3.8	1.1	22.0
Black African	4.3	0.9	29.1
Other Black	0.4	0.2	14.5
Chinese	1.2	0.4	17.6
Other ethnic group	0.9	0.4	13.4

Sources: Census 2001 : Key findings and actions from the One Number Census Quality Assurance Process, Annex B, Table B1, p.39;
http://www.statistics.gov.uk/census2001/imputation_rates_by_variable.asp

Implications for 1991 to 2001 ethnic group trends analyses

Before any attempt is made to compare the size of ethnic populations or their characteristics in terms of age, sex and area of residence, adjustment factors should be applied to the 1991 data. This is because of the different approaches to non-response that were adopted in 1991 and 2001, as described above. Specifically, in 1991, nonresponse, and the absence of any large-scale imputation comparable to the 2001 One Number Census project, resulted in a significant undercount of the population which the adjustment factors were designed to correct for.

It is recommended that, at the very least, users apply the OPCS adjustment factors before comparing population totals in ethnic groups between 1991 and 2001. Some users may alternatively prefer to use adjustment factors from the Estimating with Confidence project (EWCPOP) or the SOCPOP estimates. See Simpson, S. (2002).

Where it is not possible to apply adjustment factors to the data, consideration should be given to what is known about undercoverage in 1991. This should take into account any possible effects that undercoverage may have had on the characteristics being explored. For example, if the characteristic or measure of interest is closely related to age, sex or area of residence, non-response in 1991 may have introduced bias within the 1991 data. Consideration should be given to this when the 1991 Census data are compared with data from 2001 Census.

8. Comparisons between proportions of ethnic groups in the 2001 Individual Licensed SAR and the 2001 aggregate tables

For ethnic group variables we have tested whether the difference found between the proportion of respondents in a category in the SARs and the proportion of respondents in the same category in the Census is statistically significant. We have done this by calculating confidence intervals to test the null hypothesis that there will be no difference in the proportions. A more formal description of the method is available at www.statistics.gov.uk/downloads/census2001/census_2001_quality_report.pdf

A 95% confidence interval for a population estimate is about ± 2 standard errors around the estimate calculated from the sample. If the upper and lower confidence intervals (at the 95% level) do not contain zero then we can reject the null hypothesis and assume that there is a real difference that cannot (in 95 cases out of 100) be attributed to sampling error. A table of the results is available on the SARs web site at <http://www.ccsr.ac.uk/sars/2001/2001/quality/confidence/>

Only the white British category for England is significant within the 95% confidence interval, i.e. there is a difference between the SARs proportion and the Census proportion.

9. SARs research potential on ethnic minorities: research exemplars

Although a number of surveys contain an ethnicity question, many national surveys contain only small numbers of people from ethnic minority populations. This often means that data for some ethnic minority populations cannot be analyzed separately due to statistical unreliability or concerns about confidentiality. Due to the small sample sizes of ethnic minorities in many surveys only a limited picture of their circumstances is available. Within specific categories potential differences such as for example amongst settlers from different religious backgrounds with controlling all demographic variable are therefore difficult to measure. The sample size should therefore be large enough to obtain the required level of accuracy.

One of the great advantages of using SARs in research on ethnic minorities groups is a large sample size which enables the researcher to analyze the subcategories of a particular ethnic minority community even in more detail. Therefore, differences both between and within major ethnic groups can be explored in various aspects of their socio-economic lives while at the same time controlling for other important characteristics.

The main disadvantage of SARs is limited information about geography due to confidentiality reasons. However, its big sample size could outweigh its weakness. The following research exemplars can be indicative to SARs strength for research on ethnic minorities.

Research exemplars

Prior to the release of the 1991 SARs, researchers using even purposefully designed samples frequently had to collapse all non-white ethnic groups into a catch-all 'Black' category, which obscured important differences between the ethnic minority groups. Because of their relatively large sample sizes and clear differentiation of ethnic groups, the 1991 SARs permit detailed analysis of the ethnic differences in education, class, employment, living arrangements and other aspects of life chances. Fieldhouse and Gould, 1998 work on how ethnic penalties are affected by local labour market conditions using sub-regional geography in SAR is an example of using 1991 SARs on ethnic minority research.

Take education and class for example. Owen et al. (1997) show that Chinese, Black-Africans, Other-Asians, Indians and Other-Others were among the best-educated groups whereas Pakistanis, Bangladeshis, Black-Caribbeans and Black-Others were consistently among the least qualified. This profile obtains whether we look at the male or female groups, or those born in or outside the UK. Blackburn, Dale and Jarman (1997) showed striking differences between ethnic groups in the vulnerability to unemployment, even among people with the same level of educational qualifications. One in five (20 per cent) of UK-born Black-African men and women with higher qualifications were unemployed, but the rate for similarly qualified UK-born Whites was only one fifth as many (3 to 4 per cent). Ethnic differences in class attainment were also pronounced. Heath and McMahon (1997) show that while 32 percent of British-born White males aged 21–64 were in professional and managerial (service-class) positions, only 10–14 percent of the first-generation Bangladeshi, Black-Caribbean and Pakistani groups were in similar positions. White women were about twice as likely as Bangladeshi and Pakistani women to be in service-class positions. Moreover, educational qualifications do not translate into occupational positions equally well for all ethnic groups. Among the second-generation and for both sexes alike, each of the ethnic minority groups were significantly less likely to be in service-class positions than British-born Whites, with the sole exception of Black-Others. All this holds true even when age and educational qualifications are taken into account. This, the authors hold, suggests an 'ethnic penalty' for the minority groups. Recently a comprehensive work by Simpson et al (2006) report for DWP using 2001 SARs have compared ethnic minorities differences on various categories of economic activity between 1991 and 2001 SARs.

10. Useful links

- [A guide to comparing 1991 and 2001 Census ethnic group data](#)
- [Leverhulme Programme on Migration and Citizenship](#)
- [European Research Centre on Migration and Ethnic Relations](#)
- [Survey Question Bank](#)
- [Ethnicity overview in question bank](#)
- [ESDS Government: Publications Database](#)
- [ESDS Government: Ethnicity Theme Page](#)
- [National Centre for Social Research](#)
- [Ethnicity in Office for national statistics](#)

- [UK Data Archive](#)
- [Official statistics and ethnicity](#)
- [Who are the "Other" ethnic groups](#)
- [Ethnicity & Identity in the UK](#)
- [UN Statistical Division, Ethnicity a review of data collection and disseminations](#)
- [Ethnic minorities' population size in UK 2001 Census](#)
- [A guide for the collection and classification of ethnicity data](#)
- [Focus on Ethnicity report](#)
- [EHRC](#)
- [Race Relations \(Amendment\) Act 2000 - Home Office](#)
- [Economic and Social Data Service \(ESDS\)](#)
- [Classification of ethnic groups](#)
- [SARs in NESSTAR](#)

National Statistics web site: www.statistics.gov.uk

General Register Office for Scotland web site: www.gro-scotland.gov.uk

Northern Ireland Statistics and Research Agency (NISRA): www.nisra.gov.uk

Census 2001 Definitions Volume:

www.statistics.gov.uk/downloads/census2001/definitions_chapters_1_5.pdf

Scotland's Census Results Online: www.scrol.gov.uk/scrol/common/home.jsp

Definition of terms used in the 2001 Scottish Census: www.scrol.gov.uk/scrol/help/terms.htm

Census Evaluation - Scotland:

<http://www.gro-scotland.gov.uk/files1/stats/census-onc-evaluation.pdf>

The methodological approach to the 2001 census – NISRA:

<http://www.nisranew.nisra.gov.uk/Census/pdf/methodologicalapproach2001.pdf>

Accuracy and quality of the 2001 Census: www.statistics.gov.uk/census2001/methodology.asp

Edit and imputation in the 2001 Census: www.statistics.gov.uk/census2001/editimputevrep.asp

Quality report on the 2001 Census: www.statistics.gov.uk/census2001/proj_qr.asp

1991 Census Validation Survey:

<http://www.statistics.gov.uk/StatBase/Product.asp?vInk=52&Pos=4&ColRank=2&Rank=192>

ONS protocol on data Access and Confidentiality:

www.statistics.gov.uk/about/national_statistics/cop/downloads/prot_data_access_confidentiality.pdf

Standard Occupational Classification 2000:

www.statistics.gov.uk/methods_quality/ns_sec/soc2000.asp

National Statistics Socio-economic Classification:

www.statistics.gov.uk/methods_quality/ns_sec/default.asp

The Classification of Ethnic Groups: [http://www.ons.gov.uk/about-](http://www.ons.gov.uk/about-statistics/classifications/archived/ethnic-interim/index.html)

[statistics/classifications/archived/ethnic-interim/index.html](http://www.ons.gov.uk/about-statistics/classifications/archived/ethnic-interim/index.html)

The One Number Census: www.statistics.gov.uk/census2001/IntroOneNumber.asp

Legislation and Parliament's role:

www.statistics.gov.uk/census2001/IntroLegislation.asp

Census 2011

<http://www.ons.gov.uk/census/2011-census/index.html>

Census 2001 General report for England and Wales

www.statistics.gov.uk/StatBase/Product.asp?vlnk=14213

Census 2001 the Quality report for England and Wales

www.statistics.gov.uk/downloads/census2001/census_2001_quality_report.pdf

For ESDS link to Ethnicity theme page see the following link.

www.esds.ac.uk/government/themes/ethnicity/

11. References

Berthoud, R. (2000) Ethnic employment penalties in Britain, *Journal of Ethnic and Migration Studies*, Vol 26 No 3.

Bulmer, M. (1996) "The ethnic group question in the 1991 Census of Population", *Ethnicity in the 1991 Census of Population*, Eds. Coleman, D. and J. Salt. HMSO.

Cabinet Office (2003) *Ethnic Minorities and the Labour Market*, London, Cabinet Office.

Modood, T. and Berthoud, R. (1997) *Ethnic Minorities in Britain, The Fourth National Survey of Ethnic Minorities*, London, Policy Studies Institute.

Nazroo, J. (1997) Health and Health Services, in Modood, T. and Berthoud, R. (eds) *Ethnic Minorities in Britain*, London, PSI.

Occasional Paper 36, SS 1246/1261. OPCS.

OPCS/GRO(S) (1994) *Undercoverage in Great Britain: 1991 Census User Guide* 58.

Simpson S, Cossey R, and Diamond I (1997) 1991 Population estimates for areas smaller than districts, *Population Trends* 90: 31-39.

Simpson, L and A Akinwale (2006) [Quantifying stability and change in ethnic group](http://www.ccsr.ac.uk/publications/working/2006-05.pdf) CCSR Working Paper 2006-05 www.ccsr.ac.uk/publications/working/2006-05.pdf.

Simpson L, K. Purdam, A. Tajar, E. Fieldhouse, V. Gavalas, M. Tranmer, J. Pritchard and D. Dorling (2006) *Ethnic minority populations and the labour market: an analysis of the 1991 and 2001 Census*. DWP report No. 333. The Department of Work and Pensions, London. http://research.dwp.gov.uk/asd/asd5/report_abstracts/rr_abstracts/rra_333.asp.

Tranmer, M., Pickles, A., Fieldhouse, E., Elliot, M., Dale, A., Brown, M., Martin, D., Steel, D. and Gardiner. G. (2005) The case for small area microdata, *Journal of Royal Statistical Society A* 168 Part 1 pp 29-49.

Office for National Statistics, Census 2001; *Key findings and actions from the One Number Census Quality Assurance process*, p39. http://www.statistics.gov.uk/census2001/pdfs/onc_key_findings.pdf.

For tables of imputation rates see www.statistics.gov.uk/census2001/imputation_rates_by_variable.asp.

For further information about the EWCPOP and SOCPOP estimates see Simpson, S. (2002) Dealing with the Census Undercount, pp.172-182, in Rees, P., Martin, D. and Williamson, P. (2002) *The Census Data System*, John Wiley & Sons, Ltd: West Sussex, England. The SOCPOP estimates are presented as "plausible" ranges for ethnic group estimates adjusted for undercount.

Li, Y. (2004) Samples of Anonymized Records (SARs) from the UK Censuses: A Unique Source for Social Science Research, *Sociology*, Jul 2004; vol. 38: pp. 553 - 572.

Appendix A: Ethnicity question in each country of the UK in 2001 Census

The 2001 Census ethnic group question asked in England and Wales

See the following link for the Census forms

www.ccsr.ac.uk/sars/guide/forms/

8 What is your ethnic group?

Choose ONE section from A to E, then tick the appropriate box to indicate your cultural background.

A White

British Irish

Any other White background,
please write in

B Mixed

White and Black Caribbean

White and Black African

White and Asian

Any other Mixed background
please write in

C Asian or Asian British

Indian Pakistani

Bangladeshi

Any other Asian background
please write in

D Black or Black British

Caribbean African

Any other Black background
please write in

E Chinese or other ethnic group

Chinese

Any other, *please write in*

The 2001 Census ethnic group question asked in Scotland

8 What is your ethnic group?

Choose ONE section from A to E, then tick the appropriate box to indicate your cultural background.

A White

Scottish
 Other British
 Irish
 Any other White background

please write in

B Mixed

Any other Mixed background
please write in

C Asian, Asian Scottish or Asian British or Asian British

Indian
 Pakistani
 Bangladeshi
 Chinese
 Any other Asian background

please write in

D Black, Black Scottish or Black British

Caribbean
 African
 Any other Black background

please write in

E Other ethnic background

Any other background
please write in

The 2001 Census ethnic group question asked in Northern Ireland

To which of these ethnic groups do you consider you belong?

Tick one box only

White

Chinese

Irish Traveller

Indian

Pakistani

Bangladeshi

Black Caribbean

Black African

Black Other

Mixed ethnic group,
write in

Any other ethnic group,
write in

The 1991 Census ethnic group question asked in England, Wales and Scotland

Ethnic group

Please tick the appropriate box

If the person is descended from more than one ethnic or racial group, please tick the group to which the person considers he/she belongs, or tick the 'Any other ethnic group' box and describe the person's ancestry in the space provided.

White 0

Black-Caribbean 1

Black-African 2

Black-Other
please describe

Indian 3

Pakistani 4

Bangladeshi 5

Chinese 6

Any other ethnic group
please describe

Appendix B: Recommendations for comparing 1991 and 2001 Census ethnic groups (source: ONS guide to comparing ethnic groups)

Users are presented with four approaches for combining ethnic group categories in order to increase the reliability of 1991 and 2001 comparisons: a ten-category classification; an eight-category classification; a five-category classification; and a two-category classification. Classifications in which more groups are combined offer greater stability, but at the cost of losing the detail of specific ethnic groups. Users are advised that consideration about which classification to adopt should take account of the balance between reliability and ethnic group detail. The decision about which classification to use will depend on the specific analysis.

Ten-category ethnic classification

Ten-category classification	1991 Census categories	2001 Census categories
White	White	White British White Irish Other White
Indian Pakistani Bangladeshi Other Asian	Indian Pakistani Bangladeshi Other Asian	Indian Pakistani Bangladeshi Other Asian
Black Caribbean Black African Other Black	Black Caribbean Black African Other Black	Black Caribbean Black African Other Black Mixed White & Black Caribbean Mixed White & Black African
Chinese	Chinese	Chinese
Other	Other	Other Mixed White & Asian Other Mixed

Eight-category ethnic classification

Eight-category classification	1991 Census categories	2001 Census categories
White	White	White British White Irish Other White
Indian Pakistani Bangladeshi	Indian Pakistani Bangladeshi	Indian Pakistani Bangladeshi
Black Caribbean Black African	Black Caribbean Black African	Black Caribbean Black African
Chinese	Chinese	Chinese
Other	Other Black Other Asian Other	Other Black Other Asian Other Mixed White and Black Caribbean Mixed White and Black African Mixed White and Asian Other Mixed

Five-category ethnic classification

Five-category classification	1991 Census categories	2001 Census categories
White	White	White British White Irish Other White
Asian	Indian Pakistani Bangladeshi	Indian Pakistani Bangladeshi Mixed White and Asian
Black	Black Caribbean Black African Other Black	Black Caribbean Black African Other Black Mixed White and Black Caribbean Mixed White and Black African
Chinese	Chinese	Chinese
Other	Other Other Asian	Other Other Asian Other Mixed

Two-category ethnic classification

Two-category classification	1991 Census categories	2001 Census categories
White	White	White British White Irish Other White
Non-White	Indian Pakistani Bangladeshi Black Caribbean Black African Other Black Chinese Other Other Asian	Indian Pakistani Bangladeshi Other Asian Mixed White and Black Caribbean Mixed White and Black African Mixed White and Asian Other Mixed Black Caribbean Black African Other Black Chinese Other
