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## Chapter 1

# **SPATIAL AND SOCIAL DISPARITIES**

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### **1.1 INTRODUCTION**

The concept of inequality is one that we use frequently to refer to the diversity of the individual, place or object. But, following Amartya Sen (1992), the central question in any analysis or assessment is ‘inequality of what?’. As social scientists, our ‘system of interest’ is more closely circumscribed although the range of relevant subject matter is still enormous, encompassing the traditional fields of regional development and regional science in which, like human geography, differences across physical space are of paramount importance, as well as fields such as health studies and social policy where the focus on difference is less spatial and more oriented towards the age, gender and physical and mental condition of aggregate populations as well as towards difference in material

advantage and social background. Spatial inequality is commonly identified with a measure of the unequal distribution of income, wealth, power and resources between peoples in different locations whereas social inequality refers to the ways in which categories of persons defined according to characteristics such as age, gender, class and ethnicity are differentially positioned with regard to access to a variety of social goods and services, such as the labour market and other sources of income, the housing market, education and healthcare systems, and forms of political representation and participation. Forms of social inequality are shaped by a range of structural factors, such as geographical location or citizenship status, and are often underpinned by cultural discourses and identities defining, for example, whether the poor are worthy or unworthy.

The word disparity that we use here is synonymous with the word inequality, both conveying the essence of difference as measured through some nominal, ordinal, interval or ratio scale. In the case of health, for example, disparities or inequalities refer to the population-specific differences in the presence of disease, health outcomes, life expectancy or access to health care. In contrast, the word inequity means something slightly different, conveying the need for some value judgement in the health context, i.e. geographical inequalities may exist in access to health services but these only become inequities if our subjective view about justice is that everyone should have equal rights to health care wherever they are located and this happens not to be the case in reality.

Many commentators across the social sciences have written about the processes of globalisation, technological change and post-Fordist economic restructuring that have been associated with occupational transformation and growth in international, inter-regional, inter-urban and intra-urban disparity and, in some instances, economic polarisation. Considerable attention has been paid to the wealth or income gaps that exist between different sections of the population or different parts of the country. One of the most convincing analyses in recent times by Wilkinson and Pickett (2009) draws together evidence from a range of sources to provide a convincing demonstration of the significant positive correlation in relatively rich countries between income inequalities and indices of health and social problems based on variables

including the level of trust, mental illness, life expectancy, obesity, educational performance, teenage births, homicides, imprisonment rates and social mobility. Across whole populations, the cumulative index, together with its component variables, is much higher in societies which are more unequal in terms of income or wealth. Moreover, death rates in rich countries, for example, are shown to be closely related to differences in income with more affluent areas having significantly lower mortality rates but, paradoxically, life expectancy is unrelated to differences in average income between rich countries (Wilkinson and Pickett, 2009, p. 12). It also seems clear that disparities are increasing. In the UK, research comparing data from the 1991 and 2001 Censuses (Dorling and Thomas, 2004) has shown on how the poor are getting poorer while the north-south divide is getting wider.

Population geographers have studied the processes of demographic restructuring and the influences determining the growth of the population by natural increase and its redistribution through international and internal migration, particularly the concentration and expansion of ethnic minorities in cities and regions in the USA (Frey, 1996; Ellis and Wright, 1998) and in the UK (Peach, 1996; Peach and Rossiter, 1996; Phillips, 2006; Stillwell and Phillips, 2006, Johnston et al., 2002, 2007; Finney and Simpson, 2008). The ethnic dimension has been a particular focus of attention and researchers in several social science disciplines have been concerned with systematic differences in the outcomes that men and women from different ethnic groups achieve in the labour market. Gender and ethnic gaps are observed in the percentages of men and women in different ethnic groups in the labour force, the types of occupations they choose, and their relative incomes or hourly wages.

Tackling health inequalities is an international issue and was a key health theme for the UK Presidency of the European Union in 2005 (Mackenbach, 2006). It is well-known that almost all important health problems, and the major causes of premature death such as cardiovascular disease and cancer, are more common among people with lower levels of education, income and occupational status. The health gap in life expectancy is typically five years or more between those at the top and bottom of the social scale and narrowing this health gap has become imperative in Britain with the Department of

Health (2003) setting targets to reduce inequalities in health outcomes.

The selected examples that we have mentioned above testify to the importance of identifying and, where possible, quantifying the spatial and social disparities that exist, and then attempting to understand the processes that underpin the patterns identified. This is the aim of the Understanding Population Trends and Processes (UPTAP) programme and is the focus of the chapters that appear later in this book which cover a wide range of different themes including: area classification; population and socioeconomic change; happiness and well-being; use of cultural leisure facilities; ethnic employment and occupational segregation; educational attainment; work and health; the social position of religious groups; Muslim disadvantage; education and social values; trust and civic participation; and religiosity, fertility and immigration.

There is a clear geographical focus on the United Kingdom or parts thereof in each of the chapters and many of the themes mentioned above have a temporal dimension and endeavour to capture some of the important changes taking place in recent years. The structure and contents of the book are outlined later in this chapter together with a summary of the data sets that have been used since the UPTAP initiative was designed to support the analysis of secondary data rather than the collection and analysis of primary data. Before this, however, we present a very short introductory section on spatial and social disparities in the UK by way of context for the chapters that follow.

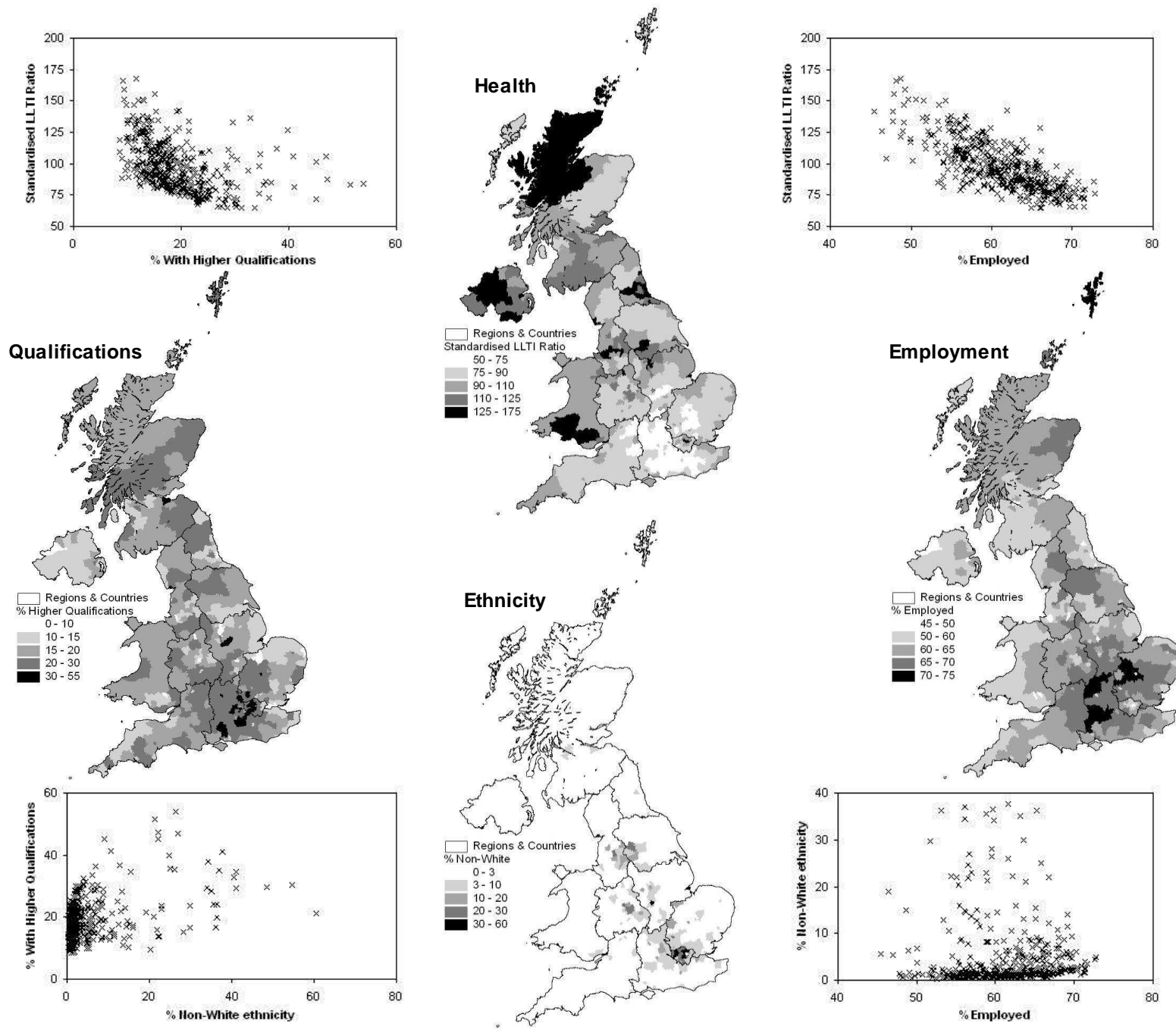
## **1.2 DISPARITIES IN THE UK**

In this volume, the characteristics of individuals or groups that are used in the analyses include: the socio-demographic attributes of age, gender and ethnicity; the socio-economic characteristics of employment status, occupation and consumption (of entertainment); and a range of social variables that include social class, education, health and well-being, happiness, religion and religiosity, identity, attitudes, social values, political values, civic participation and trust.

Since they tend to be geographic in nature, census and administrative data usually enable more spatial disaggregation and analysis of sub-national spatial disparities than do survey data sets where sample size constraints prevent detailed spatial analysis. We use data from the 2001 Census in Figure 1.1, by way of introduction, to illustrate district level variations in four selected dimensions, each of which appears in several of the chapters later in this volume: health, employment, ethnicity and educational qualifications. Health is measured here using standardised limiting long-term illness ratios. The South East is shown in the health map in Figure 1.1 to have better health in comparison with the traditional industrial areas which suffer the effects of the legacy of coal mining on health. Some rural areas in Scotland and Northern Ireland also have relatively poor health. The geography of employment, on the other hand, is almost a mirror image of the health map with the highest activity rates in a crescent running from the south-west of London clockwise to the north of London. The relationship between the health indicator and the percentage employed is a strong negative significant correlation ( $r = -0.75$ ) indicating that higher employment rates are related to better health.

**Figure 1.1: Local authority district distributions of health, employment, ethnicity and qualifications and their relationships, 2001**

Source: UK 2001 Census



The ethnicity map in Figure 1.1 shows that the distribution of non-white ethnic groups is strongly concentrated in London and the other main urban areas which tended to be the original destinations of immigrants although there is recent evidence of movement away from these locations (Stillwell et al., 2008; Finney and Simpson, 2009). The scatterplot of the relationship between non-white ethnicity and employment rates is dominated by the large number of local authorities which have very low proportions of non-white persons. In the locations with over 5% non-white persons, there is a negative correlation (-0.38) suggesting that activity rates for minorities might be relatively low.

The relationship between ethnicity and the percentage existing for higher educational qualifications is also weak (-0.36) and the spatial distribution of those with higher qualifications (degree and above) as mapped in Figure 1.1 tends to show lower rates in the most urban and far rural locations with near rural (e.g. commuter belt) locations having an apparently better educated population. There is, however, a stronger negative correlation between higher qualifications and health (-0.45), indicating that healthier populations are those with higher education qualifications.

Whilst the maps and scatterplots in Figure 1.1 are useful to indicate spatial distributions, we can only draw tentative conclusions about the relationships between variables, otherwise we risk the 'ecological fallacy'. Exploring social disparities for the population sample as a whole such as whether employment participation is influenced by ethnicity, qualifications and health can best be determined using individual level data and techniques such as logistic regression.

Thus, the Labour Force Survey (LFS) in 2001 has been used to provide data for modelling the odds of employment controlling for these factors. For a study population of those aged 16-59, Table 1.1 shows that non-white persons are less likely (odds ratio = 0.46) to be employed than the white ethnic group but those persons who have higher qualifications are over 3.5 times more likely than those without higher qualifications to be employed. Having a limiting illness is a constraining factor with those reporting illness less likely (odds ratio = 0.24) than the healthy to be in employment. All relationships here are significant. Although social disparities can be



determined, a drawback is that despite a large sample size (nearly 90,000 individuals in the model reported here), sources like the LFS do not necessarily enable sub-national analyses to be undertaken with statistical confidence.

**Table 1.1: Modelled odds of employment**

	Odds ratio	Significance
White	1.00	
Non-white	0.46 (0.44-0.49)	0.0000
No higher qualifications	1.00	
Higher Qualifications	3.54 (3.34-3.76)	0.0000
No limiting illness	1.00	
Limiting illness	0.24 (0.23-0.25)	0.0000
Constant	2.72	0.0000

Source: Labour Force Survey, 2001

Note: 95% confidence intervals in brackets

### 1.3 STRUCTURE AND CONTENT OF THE BOOK

Following this chapter, there are a further 13 chapters reporting the results of different UPTAP projects. The chapter order reflects a progression through various dimensions of spatial and social disparity introduced in the previous section. Chapters 2-5 consider spatial variations across the UK and how these have changed between 1991 and 2001. Chapters 6-9 examine some social disparities through analyses of the relationships between ethnicity, employment and health, whereas Chapters 10-14 introduce analyses involving further dimensions of social disparity such as religion, education, social values, trust and civic participation.

#### 1.3.1 Spatial disparities: demographic change, deprivation, social patterns, happiness and cultural consumption

Virtually all research on spatio-temporal change is fraught with problems for the researcher. These challenges include changes in boundary definitions of geographical units, alterations in the

definitions of key variables, variations in the questions that are asked in censuses and the ways in which the results are categorised. Paul Norman documents in Chapter 2 the challenges that have to be confronted in quantifying and mapping changes in population size, age structure and social characteristics occurring in small areas across the UK between the 1991 and 2001 Censuses and in calculating deprivation scores which are also comparable over time. The results of estimating harmonised data indicate that whilst the most urban and more deprived areas of the UK were maintained because of natural change gain, a large number of older people migrated out of these more urban and more deprived areas to less urban and less deprived locations with the result that the less deprived and more rural areas have been ageing most. In addition to comparing population dynamics, Norman also uses the Townsend index as a measure of ward level deprivation in a manner that is comparable between 1991 and 2001. The analysis suggests that deprivation eased during the 1990s, largely because unemployment was substantially lower in 2001 but also because household overcrowding was lower, and there were falls in the lack of access to a car and non-home ownership.

In Chapter 3, Dan Vickers reports on the changing nature of social patterns in England, or what he calls 'social geology', by comparing area classifications derived for 1991 and 2001 using census variables. Cluster analysis methods are employed to classify 165,665 small areas (output areas) used for reporting the results of the 2001 Census and to show that, for the majority of areas, both their position in the social hierarchy and their geodemographic class remain unchanged over the 1990s. However, changes are apparent and patterns are discernable for certain areas that suggest a polarisation of society, with increases in the wealthiest and poorest groups, and with a decline in the more mixed areas of the UK.

In recent years, there have been numerous attempts to define and measure happiness in various contexts and pertaining to a wide range of disciplines, ranging from neuroscience and psychology to philosophy, economics and social policy. Richard Layard, the economist, for example, points out that like health, happiness rises in the early stages of economic growth but then levels off in rich countries as they get richer (Layard, 2005), i.e. there comes a point where additional income cannot further improve health, happiness

and wellbeing. Despite there being a considerable number of happiness studies from various disciplinary perspectives, there is a relative paucity of geographical work in this area. In Chapter 4, Dimitris Ballas presents some results of geographical models that are capable of providing information on the different degrees of happiness and well-being attained by people in different regions and localities, under alternative scenarios and happiness definitions. The model outputs are the product of analysis of secondary socioeconomic data, such as household panel surveys and censuses of population. Ballas initially uses a multi-level model to establish the importance of individual-level variables compared with household-level or district-level variables in explaining happiness and well-being in the UK. However, one of the problems with analysis at the micro level is the lack of available data on individuals. Ballas demonstrates how spatial microsimulation modelling techniques can be used to generate data at the individual level before aggregating these data to show spatio-temporal variations in happiness (the percentage of the population who are happy more than usual) in Wales and Scotland.

Happiness is, of course, a multi-faceted concept, one dimension of which is the satisfaction gained from the opportunity to consume cultural goods and services. Those with higher incomes have the opportunity to take advantage of the entertainment facilities provided by the arts industry, some of which have a relatively expensive admission fee. In Chapter 5, Orian Brook, Paul Boyle and Robin Flowerdew make use of a large database on ticket sales relating to the performing arts in London to investigate the propensities at which different sociodemographic groups use cultural provision and to develop an ecological model of attendance which includes derived variables relating to the geographical accessibility of purchasing addresses and commuting patterns. They find that the level of higher education qualifications predicts attendance better than other variables, with income and socioeconomic factors relatively insignificant but there is substantial variation in the importance of higher education by venue. Geographical accessibility and commuting patterns are found to be strongly predictive of attendance. The model results were also compared with deprivation indices and geodemographic classifications, demonstrating that the model provided a much better prediction of attendance levels.

### **1.3.2 Social disparities: ethnicity, gender, employment and health**

Whilst the previous chapters have all considered spatial disparities, and comparisons between 1991 and 2001 have been made in certain cases, the focus of Chapter 6 is on the analysis of a much longer time series of data for one particular sub-section of the population, ethnic minorities. Yaojun Li and Anthony Heath address issues of discrimination in the labour market by using pooled data from the General Household Survey (GHS) and the Labour Force Survey (LFS) to conduct a systematic study from 1972 to 2005 to see how far equal opportunity has been achieved in British society. They consider the labour market position of ethnic minorities in general, but look in particular at access to the professional and managerial salariat position by first and second generation members of ethnic populations and by the two gender groups over the course of the last three decades. Their evidence shows that men and women in both first and second generation minority ethnic groups were disadvantaged in comparison with their white British peers in terms of getting employment throughout the time period, and that, for those who did manage to get a job, the first generation men and both generations of women from the minority groups lagged behind whites in gaining access to the salariat.

Occupational segregation by ethnicity in England and Wales during the twentieth century was consistently high, but declining in the 1980s. This dimension of social segregation at a national level is developed further in Chapter 7 where Daniel Guinea-Martin, Louisa Blackwell and Jane Elliott show a steeper fall during the 1990s. Longitudinal analysis of patterns of population change and economic activity suggests that the decline in segregation across all ethnic groups over the 1990s was fuelled by structural change in the labour market. The authors use Theil's H, a decomposable index of segregation, to study the impact of gender and employment status on the levels of occupational segregation. The calculation of Theil's H is applied to each of seven main ethnic groups of England and Wales in 1991 and 2001. Using data from the 1991 and 2001 Censuses, the ONS Longitudinal Study (LS) and the Labour Force Survey (LFS), they show that, by 2001, workers of both sexes and all ethnic groups were less likely to be concentrated in manual and manufacturing

occupations and more likely to be concentrated in service sector jobs. Analysis of women's occupational concentration explains why segregation between full-timers and part-timers does not contribute significantly to overall levels of segregation: most occupational unit groups where female full-time and part-time jobs are most concentrated are the same. What differentiates both types of workers is the higher concentration of part-time jobs in fewer occupations.

The last two chapters have considered, in different ways, the interplay between ethnicity, gender and employment. In the next two chapters, findings are reported of the relationship between employment and health, a relationship that is difficult to pin down. Some people thrive in working and their health is affected negatively if they are out of work or unemployed; others find work stressful and believe that it causes their health to depreciate. Whilst unemployment is often associated with ill-health, it may sometimes be the case that those with health problems are less able to work – they are selected out of employment.

There is little doubt that there are considerable variations in the risk of incapacity, ill-health and premature death that result from the type of work that an individual undertakes. Breathing in coal dust obviously puts miners at risk of developing respiratory diseases like pneumoconiosis and emphysema whereas it has been known for many years that workers in iron and steel foundries are prone to develop silicosis. Moreover, some jobs are considered as being more stressful than others and those who undertake these jobs are prone to cardiovascular disease, for example. Consequently, this leads to the assumption that there are social inequalities in the risk of disease due to the different types of work that individuals carry out. However, as Claudia Thomas points out in Chapter 8, the situation is not quite as simple as this because the impact of employment on health depends on the different hours spent at the workplace and the history of work types and behaviour that individuals have experienced over their lives and well as the type of work that they are doing at one point in time. Thomas uses data from the 1958 British birth cohort, the National Child Development Study (NCDS) to gain a better understanding of whether shift work is associated with increased risk of cardiovascular disease (CVD). She demonstrates a relationship in which a change in the amount or duration of exposure to night and early morning shift

work is associated with a change in risk of CVD but recognises that there may be other factors that make these shift workers susceptible to CVD such as the circadian disruption of the metabolic system associated with night work. In a second analysis, Thomas shows that night workers with low job control are particularly at risk of cortisol dysregulation over and above that seen for night work or low job control alone. Cortisol is a stress hormone that can be measured in saliva or blood. Its release is triggered by the brain and serves to prepare the body for stressful situations. The results of this work suggest that it is too simplistic to consider one type of work as being the cause of CVD when the health outcome is likely to be the result of a complex set of factors that include previous types of employment and circadian effects as well as stress responses.

In Chapter 9, Gopalakrishnan Netuveli considers a number of hypotheses relating to the pathways or 'trajectories' of individuals in terms of their labour force participation and health status. He uses data from adjacent waves of the British Household Panel Survey (BHPS) to determine answers to questions about whether past experience affects current employment participation and health status, whether labour force participation and health status patterns cluster into groups, and whether labour force participation and health status run in parallel.

#### **1.3.4 Social disparities: religion, education and social values**

The social position of different religious groups in Britain has recently been the subject of much discussion. The cross-classification of ethnicity and religion is the starting point for the work presented in Chapter 10 by Saffron Karlsen and James Nazroo which uses census and survey data to develop a picture of the characteristics and attitudes of different Muslim groups in Britain. Although Muslims in general are shown to experience socioeconomic disadvantage which has a significant health impact, Indian Muslims, for example, often experience less disadvantage than Muslims of other ethnicities. Experiences of racism and perceptions that employers discriminate against minority groups, also translate into poorer health outcomes for religious minority groups. Stereotypes based on race, ethnicity and religion appear to justify the marginalisation of certain minority groups.

Using data from the Muslims in Europe' (ME) study, Karlsen and Nazroo show that many from the minority groups in London consider themselves able to access a form of flexible British identity acceptable for individuals of minority groups with widely differing demands. This sense of Britishness, and of being 'at home' in Britain, is much stronger than similar feelings of certain minorities in Madrid and Berlin and is regarded as important in counteracting the negative views of Islamophobia that so often appear in the popular press. It is this inclusive form of British identity which the authors feel is likely to provide the best potential for the future.

The ethnic dimension of social disparity is continued in Chapter 11, where Michelle Jackson examines inequalities in educational attainment for a cohort of English and Welsh students who were aged 16 in 2004 (Youth Cohort Study 12), at the point of decision between leaving school and staying on. Jackson contends that in trying to understand how inequalities in educational attainment are created, it is important to take into account the distinction between 'primary' effects that are due to differences in performance between children of different groups, and 'secondary' effects that describe the different choices made by children from different groups, conditional on performance. The chapter examines class, ethnic and sex inequalities in educational attainment before ascertaining the relative importance of primary and secondary effects in creating these inequalities.

Whilst social inequalities provide measures of the gaps in affluence, health, life expectancy, education between different subgroups of the population, social values are the abstract standards or empirical variables in social life which are believed to be important and/or desirable to individuals. What might these values involve? Trustworthiness, good citizenship, the absence of racism, freedom of speech and good education are all abstract standards and it is possible to list other social, political and educational values that are relevant to individuals or to the systems in which individuals operate in their daily lives yet empirical measurement of these values is often difficult. In Chapter 12, Paula Surridge uses two attitude scales developed by Heath et al. (1994) – the economically orientated 'socialist-laissez faire' (or 'left-right') scale and the politically orientated 'liberal-authoritarian' scale – as value scales to consider the effects of education on values.

Britain's education system, valued highly by many throughout the world, has seen profound change in the last two decades with more students staying on at school beyond age 16 and many more attending higher education. Surridge addresses the issue of how education influences social values and how education and social class interact in this process. Evidence is presented that education and social class both show clear links with social values with education being more closely linked to the liberal-authoritarian scale and social class being more closely linked to the left-right value scale. However, it is also the case that education and social class are linked: higher social classes tend to contain those with higher education qualifications, for example. By mapping social values by social location, Surridge provides an informal examination of the way in which social class and education interact and this analysis is developed further using multivariate models to examine the relative impact of value positions of class, education and the interaction of these two dimensions. The chapter also considers the impact of a rapidly expanding education system on these relationships.

The sine qua non of a well functioning social system is the existence of trust: trust in the institutions of state; trust in one's neighbours, friends and professional associates. It has been noted in much scholarly work that trust and what has come to be referred to as social capital (Coleman, 1990) tend to go together, both in theoretical discussions and in at least some empirical investigations. Theoretically, if social capital is a resource that is available to individuals or communities for mutual benefit, it can only be realised or 'spent' via relationships between trusting individuals or groups. Some studies using survey data, and taking as indicators of social capital the membership of civic associations, have also brought this to light as an empirical observation (e.g. Brehm and Rahn, 1997; Claibourn and Martin, 2000; Paxton, 1999; Putnam, 2000).

However, whilst these studies have in general shown positive associations between trust and membership at the individual and aggregate level, the issue of causality has been a much more difficult nut to crack. Does trust in one's proximal community (neighbourhood, family, friends) lead to trusting in more distant institutions of state such as legislatures, government, judiciary, police forces? Or is it that well functioning, credible institutions have a



trickle-down effect on individuals, making them more likely to trust other citizens when confidence in the state apparatus is high? Does joining civic organisations or increasing the scope and depth of friendship or other informal networks lead to individuals 'learning' to trust more, or is that trusting individuals 'select into' such organisations or networks? Or could the empirical observation that social trust, institutional trust and civic association are positively correlated mean that some unobserved social or psychological variable is acting as a common cause? In the penultimate chapter of the book, Nick Allum, Roger Patulny, Sanna Read and Patrick Sturgis focus on the latter hypothesis and examine data from the European Social Survey (ESS). They fit models that assess changes in the partial correlation between forms of trust and civic association conditioning on a range of individual level sociological and personality characteristics that could be considered common causes.

Secularisation generally refers to the process of transformation by which a society moves from close identification with religious institutions to one in which these institutions are in a position of lesser authority. The developed world has witnessed a process of secularisation over several decades, resulting in falling church membership and smaller congregations across the range of religious denominations. A key question is whether this process in Europe will continue or whether it will be reversed in future decades. Eric Kaufmann argues in Chapter 14, the final chapter of the book, that components of demographic change will have an important role to play in future. Religiosity will spread largely through demographic advantage and Europe and America will grow more religious after 2050 due to continuing immigration trends and a gap in fertility rates between religious and secular populations. He suggests that the rate of secularisation is already slowing in parts of north-western society and that religious revival is likely to be prominent in major cities that are the focal points for large-scale immigration.

## **1.4 CONCLUSIONS**

The projects that we have introduced in the previous sections and which are reported in the chapters which follow represent a suite of

state-of-the-art population studies of social and spatial disparities. In summary, Table 1.2 contains the keywords associated with each chapter together with the main sources from which data are extracted. It is perhaps not surprising that whereas censuses of population provide the key information for the analysis of spatial disparities, cohort studies and surveys are the main sources of data on social disparity.

**Table 1.2: Main data sets used in forthcoming chapters**

Chap	Author(s)	Keywords	Data sources
2	Norman	Population change; deprivation change; boundary change	Censuses 1991 and 2001; mid-year populations 1991; Vital Statistics
3	Vickers	Geodemographics; social change; polarisation; social geology	Censuses 1991 and 2001
4	Ballas	Subjective well-being, happiness.	British Household Panel Survey (BHPS); Censuses 1991 and 2001
5	Brook, Boyle and Flowerdew	Cultural consumption; performing arts accessibility index; commuting patterns; education	Audiences London ticket sales data; 2001 Census; 2004 Index of Multiple Deprivation (IMD); Experian's Mosaic area classification; National Statistics Output Area Classification (NS OAC)
6	Li and Heath	Ethnicity; gender; employment status; class position	General Household Survey (GHS); Labour Force Survey (LFS)
7	Guinea-Martin, Blackwell and Elliott	Segregation; concentration; occupational classification; employment status; ethnicity; gender	1991 and 2001 Censuses, ONS Longitudinal Study (LS) and the Labour Force Survey (LFS)
8	Thomas	Health; cardiovascular disease; socioeconomic groups; employment; exposure combinations	1958 British birth cohort or National Child Development Study (NCDS)
9	Netuveli	Employment; health; pathways	British Household Panel Survey (BHPS); English Longitudinal Study of

10	Karlsen and Nazroo	Muslim groups; economic position; health; social position, identity; attitudes	Ageing (ELSA) Census 2001; Health Survey for England (HSE); EMPIRIC; 'Muslims in Europe' (ME) study
11	Jackson	Educational attainment; inequality; transition to A-level; primary effects; secondary effects	Youth Cohort Studies (YCS 12)
12	SurrIDGE	Social values; political values; education; qualifications; social class	British Social Attitudes (BSA) surveys
13	Allum, Patulny, Read and Sturgis	Social trust, political trust; civic participation	European Social Survey (ESS)
14	Kaufmann	Religiosity; secularisation; demography; fertility; immigration	European Values Survey (EVS) 1981, 1990 and 1999-2000; European Social Survey (ESS) 2004; Fourth National Survey of Ethnic Minorities 1993-94; Citizenship Survey 2001 and 2003; ONS Longitudinal Survey (ONS-LS) 2001

Excluded from Table 1.2 is any reference to the methods that have been adopted to perform the analyses of the secondary data sets. The chapters that follow will provide this guidance, covering a range of techniques from area classification and time series demographic analysis to various modelling methods including grouped logistic regression modelling, multi-level modelling and spatial microsimulation.

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