

ESDS Government Newsletter

Complex Sample Design

Standard commands in statistical software typically treat data as simple random samples. The vast majority of ESDS Government supported surveys however employ complex sample design features such as clustering or stratification.

Software commands designed for simple random samples do not take into account the statistical implications of complex sample design. An important consequence of this is that the magnitude of standard errors may be underestimated (or in some cases, overestimated). Techniques are available in statistical packages such as Stata or SPSS that incorporate complex design features into your analysis to take into account such effects.

Primary Sampling Units



ESDS Government has produced an introductory guide which provides an overview of the survey design features of ESDS Government datasets. It also provides information on analysing complex samples using Stata. Focusing on design-based approaches, practical examples are given using the Health Survey for England (HSE).

The guide is available from the ESDS web site at www.esds.ac.uk/government/resources/analysis/.

An introductory workshop on complex sample design was held on 20 July 2009 at the University of Manchester. Slides and a workbook from this workshop are available to download from www.ccsr.ac.uk/esds/events/2009-07-20/.

The morning sessions focused on theory and statistical concepts involved in the design and the analysis of complex surveys. In the afternoon, hands on workshops introduced design-based approaches to survey estimation using the 'svy' suite of commands in Stata.

Topics covered include producing basic descriptive statistics, sub-population analysis, estimating design effects, and basic multivariate analysis.

The workshop will be repeated on 27 May 2010 at the University of Manchester. A programme and booking form will be available soon from www.ccsr.ac.uk/esds/events/.

Introductory Guide to the Expenditure and Food Survey



This guide, written by ESDS Government, is designed to pull together essential information about the Expenditure and Food Survey deposited by the Office for National Statistics (ONS) and the Department for Environment, Food and Rural Affairs. It builds on the standard EFS documentation produced by ONS and contains advice on how to work with the data structure of the EFS and on how to link data across files and generate subsets using Nesstar for files from 2005-06. The EFS guide is available to download from www.esds.ac.uk/government/resources/themeguides.asp.

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Crime, Safety and Community resources

Every two years, ESDS Government has a different theme/topic upon which we base our resources. The theme for 2009 and 2010 is Crime, Safety and Community and we have produced a number of resources as outlined below.

The **Introductory Guide to Using Government Surveys for Crime Research** is intended to guide users through the crime data that are available for secondary analysis via the large-scale government surveys. The guide is freely available to download from the ESDS Government web site at www.esds.ac.uk/government/docs/crimeguide.pdf.

An **introductory workshop on crime** was held at Lancaster University on 6 October. This was aimed at those with little or no experience of using government survey data and it introduced the large-scale government data such as the British Crime Survey (BCS) and The Citizenship Survey. Professor Brian Francis gave an introductory session on general crime statistics and how best to measure crime. Participants also learnt about the data available, considerations when using the data, the research potential of the data, how to register for and access data and where to go for help. There was a hands-on computing session to explore the BCS data in Nesstar and start analysis in SPSS. The slides are available from www.ccsr.ac.uk/esds/events/2009-10-06/.

The **ESDS Government Research Conference**, held on 18 November 2009 at the British Academy, focused on the topic of Crime, Safety and Community, showcasing recent research using ESDS datasets. Professor Paul Wiles, Chief Scientific Advisor to the Home Office, chaired the conference which demonstrated the importance of crime, safety and community in a policy perspective. Two papers, drawing on the Offenders Cohort Index looked at offending behaviour; Professor Brian Francis addressed specialisation and escalation among offenders while Professor Keith Soothill explored the risk of offending among ex-offenders and non-offenders and whether/when ex-offenders should be treated like non-offenders. Helen Chester drew on the British Crime Survey to explore property crime using multi-level modeling and found that household characteristics explained more of the variation in property crime victimization than area level characteristics.

Professor Tim Hope used the British Crime Survey and the Scottish Crime and Victimization Survey to explore the distribution of crime victimization in the population and his results suggest that delivering crime prevention to the general population as a whole rather than targeting chronic victims would gain a greater overall return on investment. Dr Emily Gray reported on her work using the British Crime Survey to look at a new way of measuring the fear of crime, which differentiates between a dysfunctional worry that erodes quality of life and a functional worry that motivates vigilance and routine precaution. The final paper, which looked into who buys stolen goods, was given by Dr Mike Sutton who used the British Crime Survey and the Offending, Crime and Justice Survey as context for his qualitative work with thieves and fences. The research identified six market types for stolen goods and the paper discussed the need for national crime surveys to assess which of the six markets play major roles in facilitating theft. Slides and summaries of the papers given are available on the past events pages at www.ccsr.ac.uk/esds/events/2009-11-18/.

We are holding our annual **Crime Surveys User Meeting** on 7 December. The User Meeting provides a forum for data users and producers to meet and discuss new developments and exchange information about the crime surveys. This year the meeting will be held in Manchester and focuses on methods. The programme is available from www.ccsr.ac.uk/esds/events/2009-12-07/. The **Crime, Safety and Community theme page** on the ESDS Government web site contains further links to related resources such as the SPSS Workbook for Dissertation Students on Exploring the Fear of Crime at www.esds.ac.uk/government/resources/sass/.

General Household Survey Datasets - News from ONS

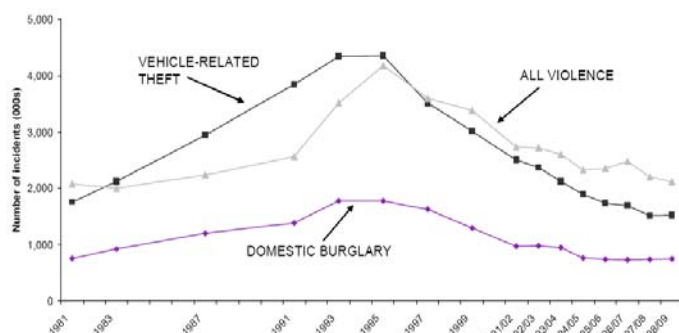
The 2007 General Household Survey (GHS) micro dataset has been classified as personal information under the UK Statistics Authority Code of Practice for Official Statistics (CoP) and the Statistics and Registration Service Act 2007 (SRSA). As a consequence, the dataset (in broadly the same format as the GHS End User Licence datasets for previous years) has been released under Special Licence only. The Special Licence dataset can be accessed by Approved Researchers (ARs); for further details please refer to the ESDS web site at www.esds.ac.uk/orderingData/specialLicence.asp. It should be noted that ARs who access the dataset have to demonstrate they have the appropriate knowledge and experience necessary for handling potentially disclosive data. Each AR application must also be for a specific purpose that in some way is deemed to serve the public good. The Office for National Statistics (ONS) is working on producing a reduced, non-disclosive GHS dataset that will hopefully be available under End User Licence in 2010.

One of the main reasons the GHS dataset has been released under Special Licence is the longitudinal structure of the dataset, where in 2007, persons were sampled for their first, second or third year. For details of the longitudinal design, please refer to GHS 2007 Appendix B, Sample Design and Response at www.statistics.gov.uk/ghs. One of the main advantages of the longitudinal design is increased precision of the estimators of change between years.

The 2007 GHS Special Licence dataset includes both longitudinal cases interviewed in that year and respondents who have been interviewed for the first time. However, there is no unique identifier to allow users to match longitudinal records across time. Nonetheless, ONS is currently working on producing a longitudinal dataset that will link individuals across years and hopes to release this to Approved Researchers at the end of 2010. The dataset is likely to be released (at least initially) via ONS' Virtual Microdata Laboratory (VML).

The 2008 General Lifestyle Survey (the new name for the GHS) micro dataset is due to be released under Special Licence in the first quarter of 2010. The dataset will follow the same structure as the 2007 dataset.

Trends in crime, 1981 to 2008/09 BCS



Variables in Labour Force Survey Calendar Datasets

In accordance with EU regulations, the LFS moved from seasonal (spring, summer, autumn, winter) quarters to calendar quarters (January-March, April-June, July-September, October-December) in 2006. The seasonal datasets have been removed from the UK Data Archive and replaced by the calendar datasets. As a result a number of variables have been dropped from the datasets. This affects the following "types" of variables:

- variables with derivation changes between quarters. For example from Spring 2001 (Mar to May), the Labour Force Survey (LFS) introduced new questions on ethnicity in line with the new ethnicity classification. ONS have dropped the ethnicity variables from the 2001 Quarter 1 dataset (Jan-Mar) as including them would introduce inconsistency within that quarter (i.e. there would be a different definition of ethnicity in Jan/Feb to that in March).
- variables that only occur within one quarter of the year. For example union, which was included in winter quarters (Dec-Feb) from 1998-2004 has been dropped by ONS as it introduces inconsistency within the new calendar quarter (i.e. union would only be present within one month of calendar quarter 4 - December).

Unfortunately the LFS User Guides do not reflect the changes noted above. As a result you will find that certain variables noted in the User Guides as being present in the datasets are not actually in the datasets. ESDS Government advise users to:

1. Check the data in Nesstar to see if the variables you need are available in the dataset - you should do this before you download the data/choose the data for your project: <http://nesstar.esds.ac.uk/webview/index.jsp>.
2. The variables search page contains details of variables within each of the ESDS Government datasets. If you search for a variable that appears to be missing (e.g. union) you may find that the variable appears as being present in the old seasonal dataset, but not in the calendar dataset. This is highly suggestive that the variable has been omitted from the calendarised data.
3. Request the seasonal datasets from ESDS (help@esds.ac.uk) if you require them. These are available from March-May 1992 through to March-May 2006. Please note that the seasonal datasets are still weighted to the 2003 population figures, not 2007, and they cannot be considered consistent with calendar datasets. The seasonal datasets are not routinely available to download from ESDS so users need to request them specifically. When requesting the datasets please could you also provide information about the missing variables that you require.

Ethnic Differences in Physical Activity and Obesity

Vanessa Higgins and Angela Dale, University of Manchester

The rapid rise in obesity over the past decade has resulted in widespread concern over its implications for public health. The UK Government has set recommended guidelines and a series of action plans aimed at reducing obesity levels - these include guidelines for adults to participate in physical activity at least 5 days a week for at least 30 minutes per day. We have used data from the 2004 Health Survey for England to provide a detailed break-down of differences in levels of obesity and physical activity for men and women in eight major ethnic groups. Obesity is measured by Body Mass Index (BMI).

For all ethnic groups, men are more likely to meet the physical activity guidelines than women and younger age groups more likely to do so than older groups (with the exception of the Chinese group). Levels of physical activity are particularly low among Pakistani, Bangladeshi and Chinese women.

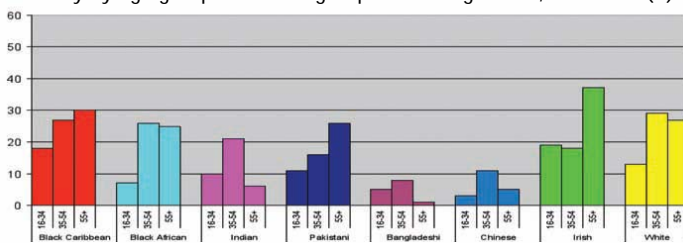
Among men highest levels of obesity are in the Irish, Black-Caribbean and White groups whilst, for women, the Black-African, Black-Caribbean and Pakistani groups have the highest levels of obesity. Within these groups obesity levels are markedly higher for older women than for younger women. Chinese and Bangladeshi men and women have the lowest levels of obesity.

Logistic regression models show that ethnic differences in obesity and physical activity remain after holding constant socio-demographic, socio-economic and area characteristics but these differences vary between ethnic groups and by gender. Black-Caribbean and Black-African women have higher odds of obesity than White women but obesity among Black-Caribbean and Black-African men is not significantly different to White men. South Asian men have lower odds of obesity than White men but South Asian women are not significantly different to White women.

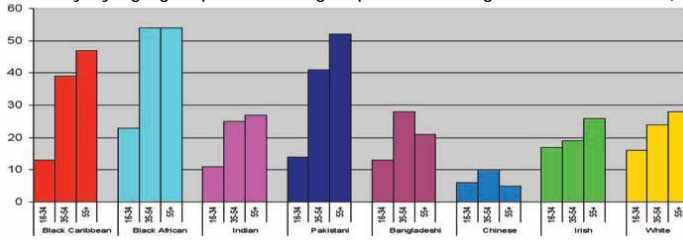
Men and women with no qualifications or low-level qualifications have higher odds of being obese than those with degree-level qualifications. Low income is a predictor of obesity (by comparison to higher income) for women, but not for men. Economic status is related to physical activity (but not obesity) - unemployed and economically inactive men and women have lower odds of meeting the physical activity guidelines than men and women in employment. The kind of locality in which you live is not generally an important predictor of obesity or physical activity and neither is the timing of migration to the UK. As one might expect, those who meet the physical activity guidelines have lower odds of being obese than those who do not meet the guidelines. However, this is not a straightforward relationship because both Chinese men and women and Bangladeshi men are less likely to be obese than the White comparator group and also less likely to meet the physical activity guidelines.

A fuller analysis is available in Higgins, V. and Dale, A., Ethnic Differences in Physical Activity and Obesity. CCSR Working Paper 2009-05, available at www.ccsr.ac.uk/publications/working/.

Obesity by age group and ethnic group - males aged 16+, HSE 2004 (%)



Obesity by age group and ethnic group - females aged 16+, HSE 2004 (%)



The Survey Question Bank (SQB), the successor to the ESRC Question Bank (Qb) at the University of Surrey, has recently unveiled a new questionnaire search interface* at www.surveynet.ac.uk/sqb/qb/questionnaires.asp.

The new interface allows users to search across the survey documentation held by the SQB (questionnaires, interviewer instructions, consent forms etc.) in a more focused fashion by allowing the user to specify survey title, keyword, country, survey mode, survey type and document type when searching. At the same time, work is being undertaken to expand the number of documents that can be searched to include the majority of the ESDS holdings.

Users familiar with the former Qb will be pleased to note that features popular in the SQB's earlier incarnation have been retained: including the 'topics' pages, with attendant expert overviews, and the survey methods fact sheets - and all are in the process of being migrated to the new SQB web pages and then enhanced.

The SQB is in the process of adding further survey resources via a number of 'zones' - these will focus on innovative survey methods, scales and instruments, harmonization and classification, and learning and teaching. Development in early 2010 will also be focused on a second, more ambitious interface that will allow users to search for survey question-level information across a subset of key, recent surveys held in the ESDS Nesstar catalogue.

Those keen to keep abreast of SQB developments are encouraged to sign up to the service's jiscmail list via <http://jiscmail.ac.uk/lists/survey-resources-network.html>.

Forthcoming events from ESDS Government

www.ccsr.ac.uk/esds/events/

- Crime surveys user meeting, University of Manchester, Monday 7 December 2009
- Labour Force Survey user meeting, Royal Statistical Society, London, Tuesday 15 December 2009
- General Household Survey user meeting, Royal Statistical Society, Wednesday 17 March 2010
- Introductory Workshop: Analysing Complex Sample Design in ESDS Government Datasets, University of Manchester, Thursday 27 May 2010

Other events

CCSR short courses

- * Handling Missing Data in Longitudinal Surveys (15-17 December)
- * Social Network Analysis (11-13 January)
- * Introduction to Stata (15 January)
- * Starting SPSS (29 March)

For details of all CCSR short courses and information on how to book go to www.ccsr.ac.uk/courses/.

Survey Resources Network - Survey Skills workshops

Survey Skills workshops are available at a nominal fee and open to researchers and others in research-related posts across a wide range of sectors.

13 January 2010	London	Health	National Diet and Nutrition Survey
10 February 2010	London	Longitudinal	English Longitudinal Study of Ageing
25 February 2010	Edinburgh	Health	Scottish Health Survey
17 March 2010	Manchester		Life Opportunities Survey

For details of all survey skills workshops go to www.surveynet.ac.uk/ssp/workshops/workshops.asp.

ESDS Government events held in the past six months

ESDS Government Research Conference: Crime, Safety and Community, British Academy, London Wednesday 18 November 2009

Introduction to government survey data: focus on crime, Lancaster University, Tuesday 6 October 2009

Introductory Workshop: Analysing Complex Sample Design in ESDS Government Datasets, University of Manchester, Monday 20 July 2009

Health surveys user meeting, Royal Statistical Society, London, Thursday 9 July 2009

Slides from these events are available at www.ccsr.ac.uk/esds/events/past.shtml.

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