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# Progress on open data publishing in the social sciences

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UK Data Service

Tartu DataCite Conference

23 October 2014

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UK Data Service

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# Overview

- Digital data publishing in the social sciences
- The case of the UK Data Service
- Sharing data ethically
- Spectrum of access for data
- Our citation approach



# University of Essex

The Archive



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# The UK Data Archive

- Based at the **University of Essex**, since 1967
- **47 years** of selecting, ingesting, curating and providing access to social science data
- Data and data support services for higher and further education **for research, teaching and learning**
- Attained the highest information security standard, **ISO 27001**
- **Concordat** with our National Statistical Institute (ONS)



# Links with other data archives worldwide

Qualitative data

— Data archives

Open data

Secure datalabs

Question banks

Data access policy

European data archives

North American data archives

Other worldwide data archives

SHARE 



UK Data Service



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# Open access – a great time for archives!

- Open access and transparency agendas seeking digital curation and preservation knowledge
- Move by data owners considering open licensing
- Huge progress in opening up government data (gov.data)
- Lack of trust in published academic findings – demands for verification
- ....but risks surrounding privacy concerns mean ‘open data’ may be less useful for research



# International funder data policies

- [OECD](#) Principles and Guidelines for Access to Research Data from Public Funding
- UK funder models
  - Data management plans and sharing recommendations
  - Data sharing mandates and dedicated data centres or institutions taking responsibility
- European Research Council/Horizon 2020)
  - [Pilot](#) on open access to research data
  - [Data management guidelines](#) for Horizon 2020 (policies)
  - [Communication &](#) recommendation on access to / preservation of scientific information (publications, data)
- USA data management plans, e.g.NSF and NIH



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# Journal / Publisher Data Policies

- Many science journals have data policies relating to data sharing
  - “PLOS ONE will not consider a study if the conclusions depend solely on the analysis of proprietary data” ... “the paper must include an analysis of public data that validates the conclusions so others can reproduce the analysis.”
  - BioMed Central [open data statement](#)
- Data underpinning publication accessible
  - upon request from author
  - as supplement with publication
  - in public or mandated repository (Elsevier uses PANGAEA)
- Citation via unique DOIs
- [JORD](#) project: survey of journal policies



# Progress in the social sciences (UK)

Good on funder data policy

Good on data centres (funders)

Fair on institutional repositories (funding)

Poor on journal policy

Exceptions: economic journals – verification  
Psychology journals – fraud cases



# ESRC research data policy

*Research data should be openly available to the maximum extent possible through long-term preservation and high quality data management. (ESRC Research Data Policy, 2010)*

- ESRC grant applicants planning to create data during their research include a [data management plan](#)
- ESRC award holders offer their research data to UK Data Service within three months of the end of their grant

*Researchers who collect the data initially should be aware that ESRC expects that others will also use it, so consent should be obtained on this basis and the original researcher must take into account the long-term use and preservation of data. (ESRC Framework for Research Ethics, 2012)*

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# Discipline specific data centres

- Curate and provide access to discipline-specific data:
  - UK Data Service
  - Environmental Information Data Centre
  - Visual Arts Data Service
  - Endangered Language Archive
- UK Data Service publishing pathways:
  - main collection - actively curated reserved for high impact data, primarily from government departments
  - **ReShare** - self deposit option for most research data offered



# Registry of research data

The screenshot shows the Research Data Australia website. At the top, there is a navigation bar with the site name and menu items: About, Collections, Parties, Activities, Services, Themes. Below this is a search bar with the text "Search for Research Data" and a magnifying glass icon. To the right of the search bar are buttons for "Browse by Subject Area" (with a tree icon), "Browse by Map Coverage" (with a map of Australia icon), and a user profile icon. Below the navigation bar, there are four main sections:

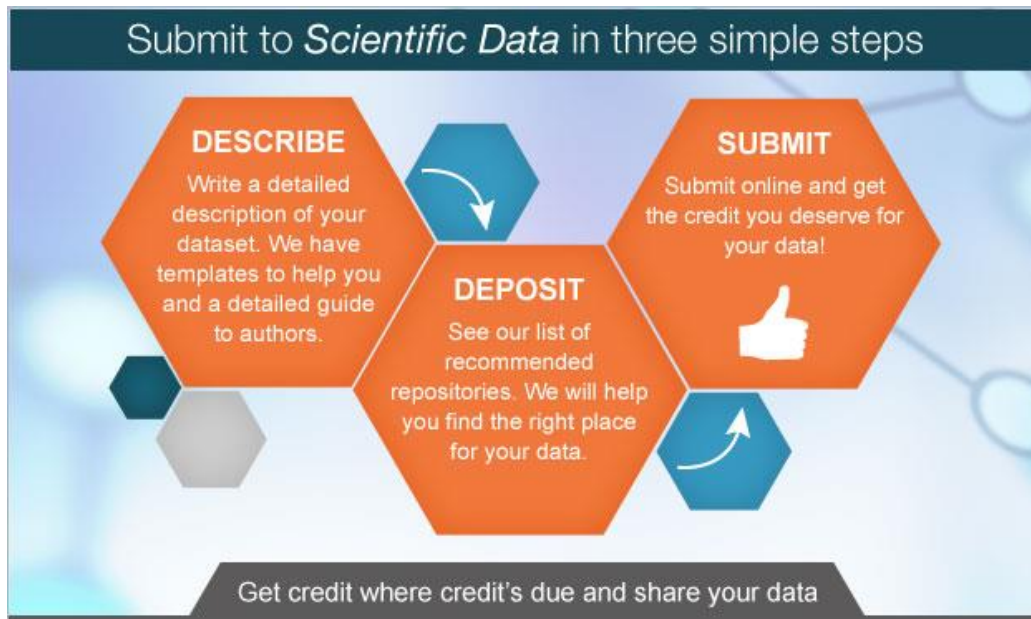
- What's in Research Data Australia**: A vertical list of four categories, each with an icon and a description:
  - Collections (99008)**: Research datasets or collections of research materials. (Icon: folder)
  - Parties (25701)**: Researchers or research organisations that create or maintain research datasets or collections. (Icon: two people)
  - Activities (40731)**: Projects or programs that create research datasets or collections. (Icon: flask)
  - Services (187)**: (Icon: document)
- Spotlight on research data**: A section titled "CATAMI: Collaborative and Annotation Tools for Analysis of Marine Imagery and Video". It includes a grid of 12 small images showing underwater marine life. The text describes how ecologists and biologists use remote video and image-based methods to examine and monitor marine habitats, particularly those beyond easy diving depth. It mentions data streams collected by the end user community at sites around Australia using modern image and video based tools including Baited Remote Underwater Video Systems (BRUVS), Autonomous Underwater Vehicle (AUV), Remotely Operated Vehicle (ROV) and Underwater Towed Video (UTV) systems. It notes that transforming raw visual data into quantitative information useful for science and policy decisions requires substantial effort by human experts. The University of Sydney has led a collaborative project to develop common labelling standards, and to transform and collate existing datasets that support marine research across Australia. The result is CATAMI: an online data management and image annotation system for marine ecologists. A link is provided: "Access the CATAMI service through Research Data Australia >>>".

- UK project underway to establish national registry from institutions and data centres



# Data journals

- New phenomenon for social sciences
- Publish a detailed journal style article describing the data and its origins
- Recommends or provides a place of deposit  
e.g. Nature Scientific Data (<http://www.nature.com/scientificdata/>)



# UK Data Service

Site Search FAQ Help Contact

UK Data Service



About us Get data Use data Manage data Deposit data News and Events



## Welcome to the UK Data Service

### Your resource for quality social research data

A unified point of access to data from ESDS, Census Programme, Secure Data Service and others



STOP



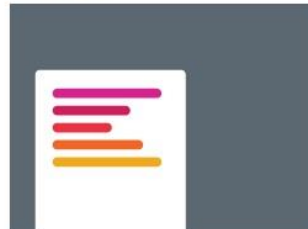
#### LATEST TWEETS

UKDataService RCUK's revised Policy on Open Access now online, to be in effect this month. <http://t.co/k3ouofVe40> @research\_uk #openaccess

UKDataService @Barnard17 There are lots of population statistics available via @ONS and @EU\_Eurostat. Sent a list of links to your blog. Good luck!

UKDataService RT @Censusacuk: <http://t.co/qVRh450y2m> is now Census Support

#### LATEST NEWS



Call for papers: Opinions and Lifestyle Survey user meeting

European Social Survey invites EU data users to visit and learn

Digital Futures: Your input needed on data digitisation

UK Data Service featured in Royal

#### OUR DATA COMMUNITY



The UK Data Service is at the core of a network of trust that includes data owners, producers, funders and users.

Who can most benefit from the data we hold?

- Academic researchers and students
- Government analysts
- Charities and foundations

#### QUICK ACCESS TO

- Key data
- Census Support
- Information for new users
- Frequently asked questions



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# UK Data Service

- put together a **collection of the most valuable data** and enhance these over time
- **preserve data in the long term** for future research purposes
- make the **data and documentation** available for reuse
- **provide data management advice** for data creators
- **provide support** for users of the service
- information about **how data are used**
- easy access through **website**



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# Our data portfolio

Over **6,000** datasets in the collection

**230** new datasets added each year

- Official agencies - mainly central government
- International statistical time series
- Individual academic' research grants
- Market research agencies
- Public records/historical sources
- Access to international data via links with other data archives worldwide





# Types of data in our portfolio

## UK Surveys

Large-scale government funded surveys

## Longitudinal

Major UK surveys following individuals over time

## International

Multi-nation aggregate databanks and survey data

## Census

Census data 1971 to 2011

## Business

Microdata and administrative data

## Qualitative

Range of multi-media data sources



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# Data access at the UK Data Service

- Web access to data (various formats) and metadata
- Data freely available for use. Commercial use charges
- Data available under 3 access levels:

OPEN

SAFEGUARDED – End User License

CONTROLLED – approved researcher /secure environment

- Some data also available via online data browsing



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# Open data collections and licenses

## Census - Open Government Licence

- 2011 and 2001 Census aggregate statistics

## Survey data - Open Government Licence

- Various surveys and teaching datasets

## Qualitative datasets – Creative Commons 4.0 BY (NC)

- life story interviews, essays, WWII reports

## Aggregate global indicators – bespoke open data license

- World Bank Millennium Development goals



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# Safeguarded data

- Register with us using UK Federation
- Agree to an End User Licence (EUL)
  - ✓ Appropriate data usage
  - ✓ Full citation of data
  - ✓ informing us of re-use
- Select data from the Discover data catalogue using 'Download/Order' button
- Specify a project for which the data are to be used
- Download data to local machine in preferred format



# Discover at UK Data Service



## Discover

Discover

Variable and question bank

QualiBank

Type

Data collections (6297)

Series (64)

Case studies (162)

ESRC outputs (13377)

Support / how to guides (170)

Refine

Subject +

Date +

Search and browse our data collections, support guides, case studies, and related publications.

Search our data catalogue and related resources

GO

Reset filters

Clear search

Auto-complete

Help



Case study



Data collection



Series record



ESRC output



Support guide

Sorted by: Date (latest first)

## SEARCH RESULTS

Displaying 1-10 of 6361 results

1 2 3 4 5 ▶▶

**S** SN 2000087 **National Awareness and Early Diagnosis Initiative: Cancer Awareness Measures**

**Description:**

The purpose of the Cancer Awareness Measure (NAEDI-CAM) is to facilitate accurate and sensitive surveillance of public awareness of cancer over time, identify information needs,...

**S** SN 2000086 **English House Condition Survey**

**Description:**

The English House Condition Survey (EHCS) was a national survey of housing in England, commissioned by the Department for Communities and Local Government (DCLG). The survey was...

**S** SN 2000085 **National Cancer Patient Experience Survey**

**Description:**

UK Data Service



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# Ethical arguments for sharing data

- Store and protect data securely
- Not burden over-researched, vulnerable groups
- Make best use of hard-to-obtain data (e.g., elites, socially excluded)
- Extend voices of participants
- Provide greater research transparency
- Enable fullest ethical use of rich data

*In each, ethical duties to participants, peers and public may be present*



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# Data Protection Act and research

- Exceptions for personal data collected as part of research:
  - can be retained indefinitely (if needed)
  - can be used for other purposes in some circumstances  
people should still be informed

The Data Protection Act is not intended to, and does not, inhibit ethical research



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# Sharing confidential research data

Consider:

- obtaining **informed consent** for data sharing
- **protecting identities** not collecting personal data or anonymisation
- **restricting / regulating access** where needed

Consider jointly and in dialogue with participants

Plan early in research





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# Do participants consent to share data?

- Timescapes
  - data on personal relationships
  - 95%+ consent rate
- Foot and mouth disease in North Cumbria
  - sensitive community information
  - UK Data Archive consultation; pilot with 4 participants
  - 40/54 interviews; 42/54 diaries; audio restricted
- Finnish research on consent
  - re-contact project: life stores, gender, etc.
  - 165/169 (98%) agreed
  - bereaved relatives wanted others to benefit from their contribution



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# Why anonymise research data?

- Ethical reasons
  - protect people's identity (sensitive, illegal, confidential)
  - disguise research location
- Legal reasons
  - not disclose personal data (DPA)
- Commercial reasons



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# Identity disclosure

## Direct identifiers

e.g. name, address, postcode, telephone number, voice, picture

often NOT essential research information (admin)

## Indirect identifiers

possible disclosure in combination with other information

e.g. occupation, geography, unique or exceptional values (outliers) or characteristics

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# Anonymising quantitative data

- remove direct identifiers  
e.g. names, address, institution, photo
- reduce the precision/detail of a variable through aggregation  
e.g. birth year vs. date of birth, occupational categories, area rather than village
- restrict upper lower ranges of a variable to hide outliers  
e.g. income, age
- combining variables  
e.g. creating non-disclosive rural/urban variable from place variables

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# Anonymising qualitative data

- Plan or apply editing at time of transcription  
except: longitudinal studies - anonymise when data collection complete (linkages)
- Avoid over-anonymising - removing/aggregating information in text can distort data or make it misleading
- Avoid blanking out; use pseudonyms or replacements. Identify replacements, e.g. with [brackets]
- Consistency within research team and throughout project
- Keep anonymisation log of all replacements, aggregations or removals made – keep separate from anonymised data files



# Online instant data browsing

Nesstar      social surveys

UKDS.stat      aggregate global indicators  
(some restrictions to HE/FE)

InFUSE      aggregate census data

QualiBank      qualitative data

APIs are coming soon!

# Nesstar: British Social Attitudes - Pay gap

UK Data Service

Delivering quality social and economic data resources

DESCRIPTION TABULATION ANALYSIS

About the UK Data Service Nesstar Catalogue

- Research Datasets
  - 1970 British Cohort Study
  - Active People Survey
  - British General Election Study
  - British Social Attitudes Survey
    - British Social Attitudes Survey, 2011
    - British Social Attitudes Survey, 2010
    - British Social Attitudes Survey, 2009
      - Metadata
      - Variable Description
        - Introduction
        - Household Grid
        - Newspaper Readership and Internet Use
        - Party Identification
        - Public Spending and Social Welfare
          - Government highest priority for extra spending? :Q570
          - Government highest priority for extra spending next? :Q571
          - R's view of the level of benefits for unemployed people? :B572
          - If govt had to choose, which should choose: B575
          - R say that the gap between those with high+low incomes is too large? :AB576
          - R place self in high/middle/low income band? :AB577
          - Closest to R's feelings about household's income these days? :AB578
          - Child under primary school age. Lone parent asked to visit the job centre at least every six months? :Q581
          - Child reaches primary school age. If this lone parent did

Dataset: British Social Attitudes Survey, 2009

**Variable IncomGap: R say that the gap between those**

LITERAL QUESTION

Thinking of income levels generally in Britain today, would you say that the gap between

Values	Categories	N	
1	too large	1797	79.3%
2	about right	360	15.9%
3	too small	51	2.2%
8	Don't know	58	2.6%
9	Refusal	1	0.0%
-7	off route due to corrupt sample file	6	
-2	Skip, version C	1148	

SUMMARY STATISTICS

Valid cases 2267

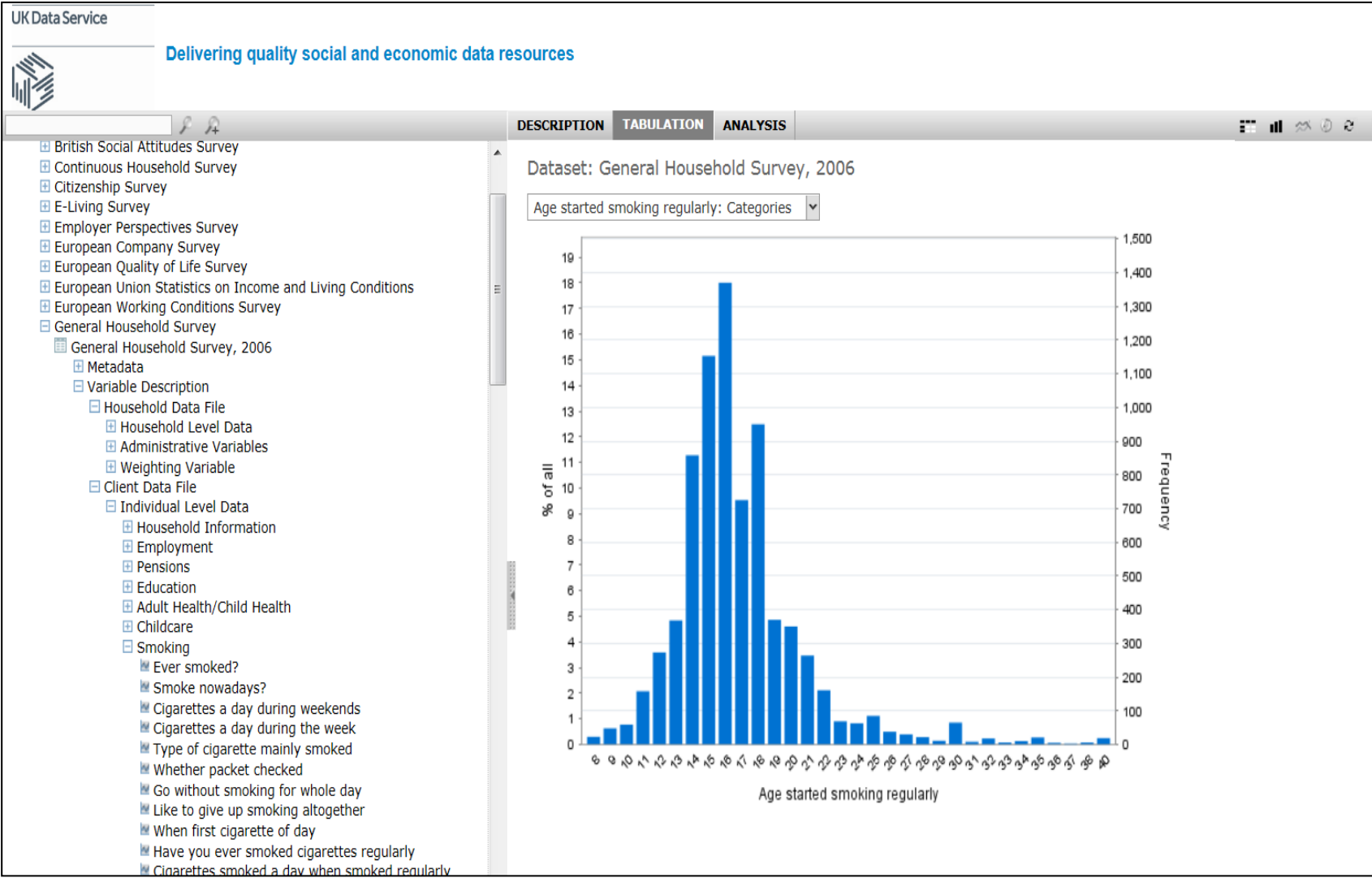
Missing cases 1154

This variable is numeric

UNIVERSE

VERSIONS A AND B: ASK ALL

# Nesstar: GHS - Age started smoking





# Nesstar: GHS - time series



UK Data Service

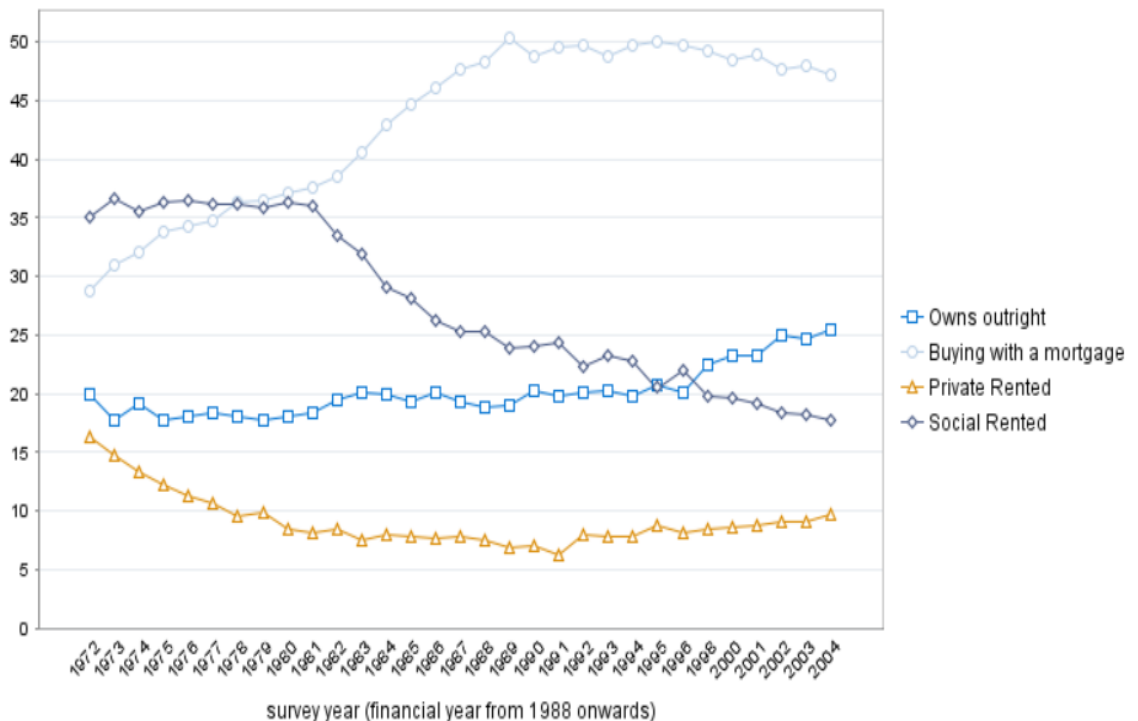
Delivering quality social and economic data resources



DESCRIPTION TABULATION ANALYSIS

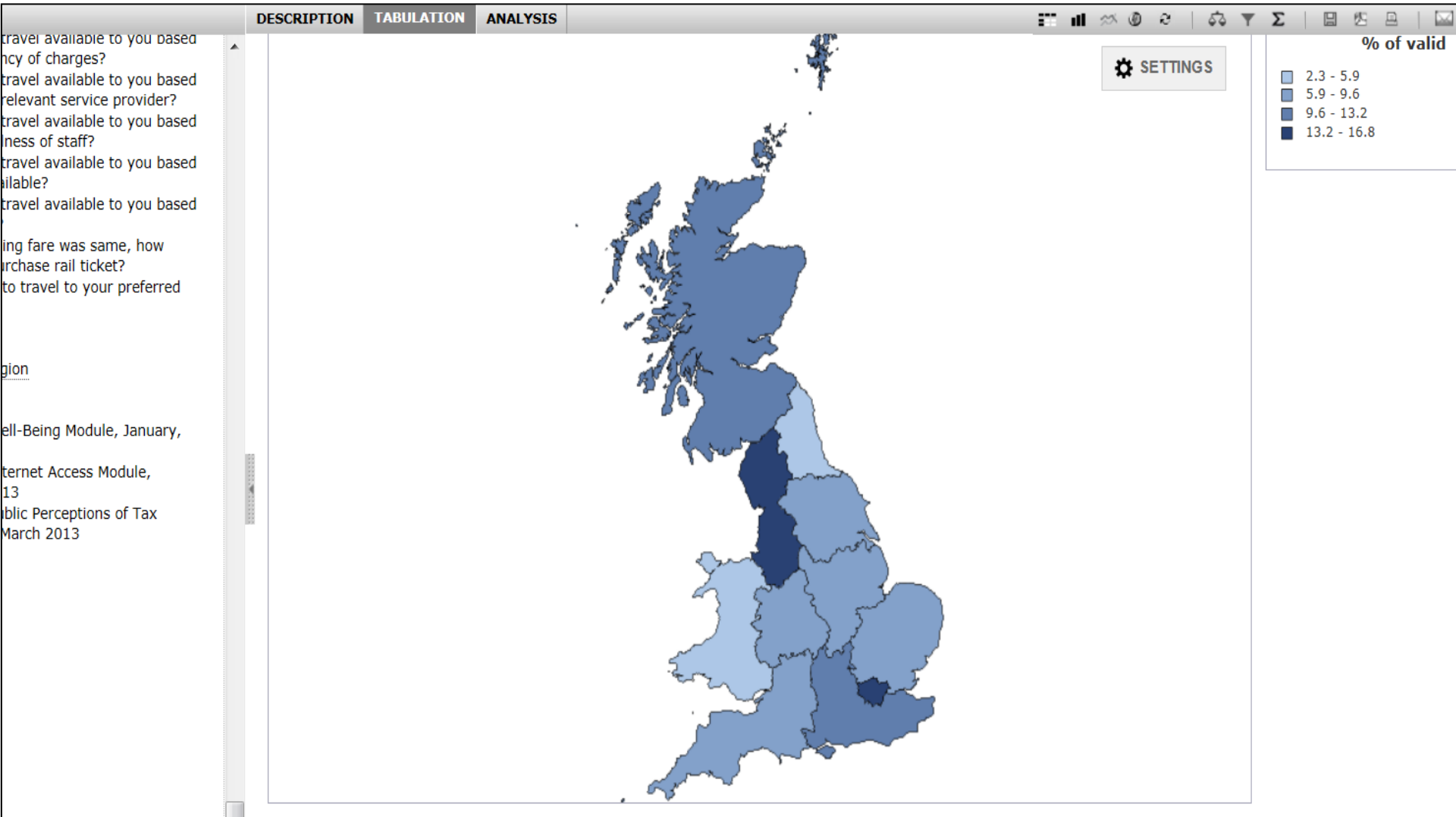
Dataset: General Household Survey: Time Series Dataset, 1972-2004

Tenure: Categories survey year (financial year from 1988 onwards): Categories Type: Column percentage



- SEX
- Estimated Year of Birth
- 5-year estimated birth cohort
- Marital Status
- Household Type A (Grouped)
- Household type F
- Household type F (Grouped)
- No. of persons in the household
- No. of children aged <5 in household
- No. of children aged 5 to 15 in household
- No. of adults aged 16 to 59 in household
- No. of adults aged 60 and over in household
- No. of adults aged 65 and over in household
- No. of teenagers in household
- No. of children aged <16 in household
- Youngest age of person in the household
- No. of males in household
- No. of females in household
- No. of adult males in household
- No. of adult females in household
- AGE GROUPED (5 YEARS)
- AGE OF ADULTS GROUPED (6 BANDS)
- AGE OF ADULTS GROUPED (7 BANDS)
- AGE OF ADULTS GROUPED (4 BANDS)
- Marital Status (4 Groups)
- Marital Status (3 Groups)
- sex of HRP/HOH
- marital status of HRP/HOH
- age of HRP/HOH
- Number of cars
- Individual Information
- Administrative Variables
- Weighting Variables
- Time Variable
- survey year (financial year from 1988 onwards)

# Nesstar: mapping OLS 2013



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# UK Data Service ReShare

<http://reshare.ukdataservice.ac.uk/>

A platform through which to get research data published

Primarily data produced by UK social science researchers, but also other social science research data of interest



# Easy to publish and upload data

Logged in as Louise Corti Logout UK Data Service home Help About FAQ Contact

UK Data Service  
ReShare



My data

Home Legal Review procedures

## Edit collection: [Data Collection #851515](#)

Terms and conditions → Award details → People → Data collection → Upload → Deposit

To deposit a data collection, you must accept the [ReShare Terms and Conditions](#).

- I confirm that I am the owner of the copyright and associated intellectual property rights in the whole Data Collection or am otherwise lawfully entitled to grant this licence on behalf of each and every owner;
- I grant a non-exclusive, royalty-free licence to the UK Data Archive (a department of the University of Essex and not a separate legal entity) of Wivenhoe Park, Colchester, CO4 3SQ (the "University") to hold, make copies of, and disseminate copies of the Data collection, in accordance with the access conditions I will specify when uploading data files: open data accessible to users without registration; or safeguarded data accessible to users registered with the data services provided by the UK Data Archive.

\* I agree to the ReShare data deposit terms and conditions

Save for later Cancel Next >



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# Citing data

- Citation a fundamental part of research and academia
- We have recommended a human readable citation for many years
- Certain attributes of data need to be identified, e.g. versions
- Granularity of citation is important
- Duplication of data sources being cited can be problematic. Which version?



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# Our persistent identifiers approach

- Our data collections are not **digital objects**
- Need to capture **changes** made to data
  - Versioning data in a commonly understood manner
  - Needed rule-based definition of a ‘significant’ change
- Integrate processes with digital preservation activities & work flows
- In 2011 we assigned 6000+ Datacite DOIs for our collections
- Use APA citation style for data



UK Data Service data catalogue record for:

## Understanding Society: Waves 1-2, 2009-2011

[Documentation](#) | [Related Studies](#) | [Publications](#)

 [Download/Order](#) | [Get f](#)

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### TITLE DETAILS

<b>SN:</b>	6614
<b>Title:</b>	Understanding Society: Waves 1-2, 2009-2011
<b>Alternative title:</b>	United Kingdom Household Longitudinal Study; UKHLS
<b>Persistent identifier:</b>	<a href="#">10.5255/UKDA-SN-6614-4</a>
<b>Series:</b>	Understanding Society: Waves 1- , 2008-
<b>Depositor:</b>	University of Essex. Institute for Social and Economic Research
<b>Principal investigator(s):</b>	University of Essex. Institute for Social and Economic Research NatCen Social Research
<b>Data collector(s):</b>	NatCen Social Research Northern Ireland Statistics and Research Agency. Central Survey Unit
<b>Sponsor(s):</b>	Economic and Social Research Council Department for Work and Pensions Department for Education Department for Transport Department for Culture, Media and Sport

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# Recording significant change

- Approx. **15% UKDA data collections** are altered within first year after first publication
- We distinguish between **major and minor** changes to a data collection = high impact vs. low impact
- DOI allocated to a **metadata** instance of a data collection
  - DOIs resolve to jump page with version history pointing to all external instances
  - New DOI = High Impact change, with explicit logging
- Provided access only to most up-to-date version of data





# Major changes – high impact

- New variable added
- New labels/value codes added
- Weighting variables reconstructed
- Wrong data supplied (e.g., March not April)
- Mis-coded data (e.g., Don't know/Refused confused)
- Change in format (file migration)
- Significant changes in documentation
- Change in access conditions





A new Digital Object Identifier (DOI) is assigned to the data collection each time there is a major change to data, documentation or metadata. The new DOI will resolve to an updated version of this page containing a log of changes to this data collection since the allocation of its first DOI. The DOI system supports resource discovery and simplifies citation for users of data collections. Data producers benefit directly through increased visibility of their work.

**10.5255/UKDA-SN-6614-4****Citation:**

University of Essex. Institute for Social and Economic Research and NatCen Social Research, *Understanding Society: Waves 1-2, 2009-2011* [computer file]. *4th Edition*. Colchester, Essex: UK Data Archive [distributor], January 2013. SN: 6614, <http://dx.doi.org/10.5255/UKDA-SN-6614-4>

**Change log:**

7 January 2013: For the fourth edition (January 2013) finalised data and documentation from Wave 2 were deposited, along with updated data and documentation for Wave 1. See documentation for full details of revisions and updates.

*Minor changes*

22 August 2013: Minor changes to catalogue record

**[Full catalogue record >](#)**

This is the latest release

**10.5255/UKDA-SN-6614-3****Citation:**

University of Essex. Institute for Social and Economic Research and National Centre for Social Research, *Understanding Society: Wave 1, 2009-2010 and Wave 2, Year 1 (Interim Release), 2010* [computer file]. *3rd Edition*. Colchester, Essex: UK Data Archive [distributor], February 2012. SN: 6614, <http://dx.doi.org/10.5255/UKDA-SN-6614-3>

**Change log:**

20 February 2012: For the third edition (February 2012) data and materials for the first year of Wave 2 were added to the study.

[A more recent release exists ^](#)

**10.5255/UKDA-SN-6614-2****Citation:**

University of Essex. Institute for Social and Economic Research and National Centre for Social Research, *Understanding Society: Wave 1, 2009-2010* [computer file]. *2nd Edition*. Colchester, Essex: UK Data Archive [distributor], November 2011. SN: 6614, <http://dx.doi.org/10.5255/UKDA-SN-6614-2>

**Change log:**

[A more recent release exists ^](#)

# Raising awareness in the social sciences

- ESRC funding for short-term project on citation
- Advocacy for best practice in citing research data
- Audiences
  - Professional organisations
  - Publishers and journal editors
  - Researchers
- Key activities
  - Data citation principles for social sciences
  - Personal communications
  - Events with BL DataCite, JISC and wider PI community
  - Outreach through Doctoral Training Centres

DATA CITATION  
what you need to know

E-S-R-C  
ECONOMIC  
& SOCIAL  
RESEARCH  
COUNCIL



UK Data Service



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# Demonstrating impact with citation

- Hoping for use of our data DOIs!
- Starting to search for use of our DOIs – Google
- Gather data citation statistics from Thomson Reuters Data Citation Index
- Work with BL Datacite and ODIN to gain connectivity between identifiers & outputs – early adopters of ORCID

ORCID

Connecting Research  
and Researchers

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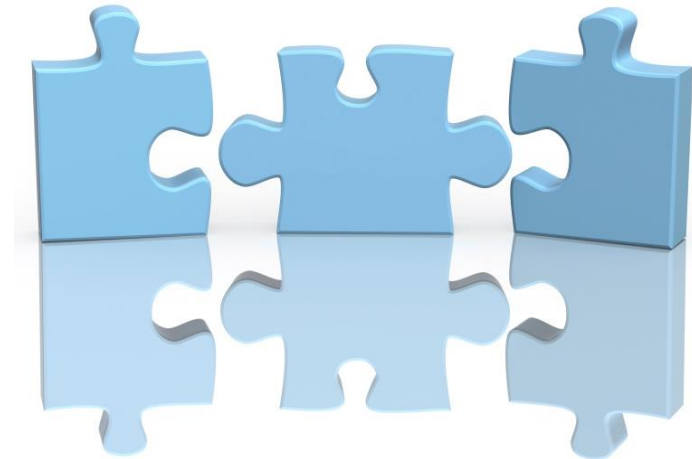
UK Data Service

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# Dynamic data citation

- Citing parts (fragments) of data collections
  - single files
  - subsets of quantitative data
  - extracts of textual data
- QualiBank system enables extract level citation
  - Citation has rich highly structured XML metadata
  - GUIDs to identify subsets citation database
  - Human reference references the 'mother' DOI



# UK Quali Bank

[Home](#) / [Contact Page](#) / [Current Child Page](#)

## Interview with Mr. Hennessey

[Study documentation](#) | [Web resources](#)

[Access whole collection](#)

### DETAILS

<b>SN:</b>	2000
<b>Title:</b>	Family Life and Work Experience Before 1918, 1870-1973
<b>Sex:</b>	Male
<b>Age group:</b>	65-74
<b>Socioeconomic status:</b>	Lower supervisory/technical
<b>Region:</b>	North West

### FULL INTERVIEW TEXT

**Interviewer:** Can you tell me where your father came from originally?

**Subject:** I can't, no. From Manchester, I expect. Although he tells me about ... well, me father, he tells me about me grandfather having a little barrel of brandy sent from France.

**Interviewer:** As if he might have come from France?

**Subject:** Yes. Hennessey's brandy.

**Interviewer:** You didn't belong to the Hennessey brandy family?

**Subject:** I think he did. I think it is. But he said he couldn't pay the duty on it and they had to send it back. That's all I know about it, I mean to say, it might be hearsay, and I don't know.

**Interviewer:** You don't know where your mother came from?

**Subject:** No, I haven't the faintest like that.

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Cancel

4 extracts selected

RETRIEVE  
CITATION

## INTERVIEW TRANSCRIPT

### Create citation

Select an extract below and then use the ▲ ▼ arrows to expand your selection. When ready, click 'Retrieve Citation' to view your unique citation reference.

Alternatively you may [cite the whole text](#).

I: Can you tell me where your father came from originally?

R: I can't, no. From Manchester, I expect. Although he tells me about ... well, me father, he tells me about me grandfather having a little barrel of brandy sent from France. ▲ ▼

I: As if he might have come from France?

R: Yes. **Hennessey**'s brandy.

I: You didn't belong to the **Hennessey** brandy family? ▲ ▼

R: I think he did. I think it is. But he said he couldn't pay the duty on it and they had to send it back. That's all I know about it. I mean to sav. it might be hearsav. and I don't know.

UK Data Service



# APA citation format

Citation



A unique citation reference has been generated based on your selection.

Thompson, P., University of Essex. Department of Sociology, Lummis, T., University of Essex. Department of Sociology: "Interview with Mr. Hennessey" in "Family Life and Work Experience Before 1918, 1870-1973" 7, UK Data Service [distributor], 2009-05-12, SN:2000, Paragraphs 2-5.  
<http://dx.doi.org/10.5255/UKDA-SN-2000-1>,  
<http://discover.ukdataservice.ac.uk/QualiBank/Document/?cid=q-379e0ebd-5c23-4940-880e-a0093652e1b5>

## Select the text above

You can copy and paste this citation as required in your outputs. This citation includes a URL which will link directly back to this page, where the cited text will be highlighted.

## Show preview of citation URL in action



# More data - big data investments

- ESRC Big Data Network
  - Administrative and business
  - Third sector and local government
  - Social media
- Working with new data producers, some commercial sector
- Will need new data access environments
- New discussions about privacy and digital footprints



Image source: [digitalfamilysummit.com](http://digitalfamilysummit.com)

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# Keep connected

- Subscribe to UK Data Service list:  
[www.jiscmail.ac.uk/cgi-bin/webadmin?A0=UKDATASERVICE](http://www.jiscmail.ac.uk/cgi-bin/webadmin?A0=UKDATASERVICE)
- Follow UK Data Service on Twitter: @UKDataService
- Facebook
- Youtube: [www.youtube.com/user/UKDATASERVICE](http://www.youtube.com/user/UKDATASERVICE)



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# Contact

UK Data Service

University of Essex

[ukdataservice.ac.uk/help/get-in-touch.aspx](http://ukdataservice.ac.uk/help/get-in-touch.aspx)

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UK Data Service

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