

## DATA PAPER

# National Child Development Study (or 1958 Birth Cohort)

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The National Child Development Study (NCDS) is one of Britain's world-renowned national longitudinal birth cohort studies, three of which are run by the Centre for Longitudinal Studies at the Institute of Education, University of London.

The study is an ongoing multi-disciplinary longitudinal study which follows the lives of around 17,000 people born in England, Scotland and Wales in a single week of 1958. Over the course of cohort members lives, the NCDS has collected information on health, physical, educational and social development, and economic circumstances among other factors.

The broad aim of the study is to examine the impact that circumstances and experiences at one stage of life have on outcomes and achievements in later life. Since the birth survey in 1958, there have been ten 'sweeps' of all cohort members at ages 7, 11, 16, 23, 33, 42, 44/5 (a biomedical collection) 46, 50 and most recently at 55.

Data has been collected from a number of different sources (the midwife present at birth, parents of the cohort members, teachers, doctors and the cohort members themselves). The data has been collected in a variety of ways including via paper and electronic questionnaires, clinical records, medical examinations, physical measurements, tests of ability and educational assessments.

The information collected forms a high quality data resource for scientific investigations across a full range of domains of individuals' lives and across different points in time in them. The study has been designed so as to ensure comparability with other major cohort studies so as permit the examination of links between social change and the changing experiences of different cohorts.

The majority of NCDS survey data can be accessed by bona fide researchers through the UK Data Service at the University of Essex.

**Keywords:** longitudinal; cohort; family; housing; relationships; fertility; employment; income; education; cognition; health; well-being; social participation; values; attitudes

**Funding Statement:** CLS is funded as an ESRC resource centre. The current grant period runs from 2010 to 2015 (RES-579-47-0001).

## (1) Overview

### Introduction

NCDS began as the Perinatal Mortality Study (PMS) in 1958 and originally aimed to identify social and obstetric factors linked to stillbirth and neonatal death. The findings contributed to the improvement of maternity services in Britain and to a reduction in perinatal mortality. The PMS was not initially planned to be a longitudinal study but subsequently the National Children's Bureau was commissioned by the Central Advisory Council for Education (The Plowden Committee) to retrace the cohort at age 7 in order to monitor their educational, physical, and social development. Development through childhood was further examined at ages 11 and 16.

The age 23 survey tracked transitions into adulthood and information was gathered relating to employment

and unemployment; post-school education; marriage, cohabitation and children; housing; income; health and health behaviours and leisure activities. Further adult sweeps at 33, 42, 46, 50 and 55 have focused on the formation and maintenance of adult identity across the following key domains: lifelong learning; relationships, parenting and housing; employment and income; health and health behaviour; citizenship and values.

A biomedical survey of the cohort (when they were aged 44–45 yr) was conducted, with several collaborating partners, under the Medical Research Council's 'Health of the Public' initiative. The primary objective was to examine how developmental, lifestyle, and environmental factors act throughout the lifespan to influence ill health, and physiological and psychological function in early middle age.

Health information collected by the study is summarised below:

- **Information from childhood sweeps:** Birth circumstances, birth weight, breastfeeding, general health, child development, specific conditions, disabilities/special needs, hospital admissions, immunisation, medication, accidents, menstruation, eating problems, exercise, smoking, drinking, behavioural problems, emotional problems, sleeping problems, medical assessments (height, weight, audiometry, speech, co-ordination, vision, pubertal development), cognitive assessments, parental health, parental smoking.
- **Information from adult sweeps:** General health, specific conditions, disability/limitations, menopause, weight, accidents, mental health, well-being, sleep, smoking, alcohol, drug use, diet, exercise, cognition.
- **Information from the biomedical survey:** Near, distance and stereo vision; hearing; lung function; blood pressure and pulse, height and weight; and waist and hip circumference. Samples of blood were taken from which DNA was extracted and immortalised cell cultures created (where consent was provided), from which the cohort has been extensively genotyped. Blood samples also used to measure lipids, clotting factors, inflammatory markers, total specific serum IgE. Saliva was collected to measure levels of cortisol.

## Context

### *Spatial coverage*

Description: The National Child Development Study (NCDS) follows the lives of around 17,000 people born in England, Scotland and Wales in a single week of 1958.

### *Temporal coverage*

NCDS began as the Perinatal Mortality Study (PMS), in 1958. NCDS has followed participants throughout childhood into adulthood and aims to continue to track their lives right through to the end.

## (2) Methods

### Steps

Since the birth survey there have been ten sweeps of the study at age 7 (1965), age 11 (1969), 16 (1974), 23 (1981) 33 (1991), 42 (2000), the biomedical survey at age 44 (2002), 46 (2004), 50 (2008) and 55 (2013).

The birth survey involved the use of questionnaires completed by the midwife present at the birth of the study members. In addition, information was extracted from clinical records.

At ages 7, 11 and 16 parents of the children in the study were interviewed by health visitors. Information was also gathered from schools via the child's class teacher and head teacher and from the children themselves via means of questionnaires and assessments.

Adult sweeps from 23 onwards have typically involved face-to-face visits to study members which have been conducted by interviewers working for research companies on behalf of the organisation responsible for running the

study. From age 30 onwards most information has been collected using computer aided interviews. Information was gathered from partners and children for a third of the sample at age 33. The biomedical study at age 44 was conducted via nurses. The age 46 follow-up was conducted via telephone and the age 55 follow-up used a sequential mixed mode approach where study members were first invited to participate online and non-respondents were then contacted via telephone.

More information about each follow-up is provided on the Centre for Longitudinal Studies (CLS) website.

### Sampling strategy

The NCDS original target sample was *all* births in England, Scotland and Wales in one week of March 1958. In addition, in advance of the age 7, age 11 and age 16 follow-ups the sample was augmented with immigrants born within the relevant week.

### Quality control

Since 2000 the majority of the data has been collected via Computer Aided Interviewing (CAI) which allows the complex routing of the questionnaire instruments to be automatically controlled. Consistency checks are built into the CAI program to minimise the potential for erroneous data entry. The CAI instruments are rigorously checked prior to fieldwork. Pilot studies are conducted prior to commencement of the main stage of data collection in order to fully test the data collection instruments and all fieldwork procedures.

### Privacy

Study members have been guaranteed anonymity. Identifiable data is not included in the datasets made available for research. Researchers accessing the data via the UK Data Service must abide by the terms of an End User Licence which forbids any attempt to identify an individual. Datasets judged to have a greater disclosure risk are made available via Special Licence which involve additional access conditions.

### Ethics

Over the years, those responsible for the study have been concerned that appropriate procedures for ethical review and consent are followed but the approach has changed significantly. Currently in the UK, probably the most important route for ethical approval for studies like NCDS is the National Health Service (NHS) Research Ethics Committee (REC) system. NHS Research Ethics Committees (RECs) are appointed by the Strategic Health Authorities in England, their equivalents in Scotland and Wales and the Health and Social Care Business Services Organisation in Northern Ireland. RECs safeguard the rights, safety, dignity and well-being of people participating in research. They review applications for research and give an opinion about the proposed participant involvement and whether the research is ethical. REC ethical approval has been sought for NCDS follow-ups from 2000 on. Earlier sweeps pre-dated the establishment of the

MREC system. Available records suggest that there was only internal ethical review for these surveys.

#### Format names and versions

SPSS, STATA

### (3) Dataset description

#### Object name

National Child Development Study – available at the UK Data Service.

#### Data type

Primary data

#### Ontologies

N/A

#### Creation dates

N/A

#### Dataset creators

- Centre for Longitudinal Studies: <http://www.cls.ioe.ac.uk/>
- Institute of Education: <http://www.ioe.ac.uk/>

#### Language

English

SN	Dataset name	DOI	Publication date
6691	Social Participation and Identity, 2007-2010	10.5255/UKDA-SN-6691-3	01-Nov-11
6752	National Child Development Study: Understanding Individual Behaviour, 2010	10.5255/UKDA-SN-6752-1	19-Apr-11
5560	National Child Development Study Response and Deaths Dataset, 1958-2009	10.5255/UKDA-SN-5560-1	29-Jan-07
6137	National Child Development Study: Sweep 8, 2008-2009	10.5255/UKDA-SN-6137-2	17-Mar-09
6978	National Child Development Study: Sweep 8, 2008-2009: Imagine You are 60	10.5255/UKDA-SN-6978-1	18-Jun-12
6940	National Child Development Study: Partnership Histories, 1974-2008	10.5255/UKDA-SN-6940-1	25-Jan-12
6942	National Child Development Study: Activity Histories, 1974-2008	10.5255/UKDA-SN-6942-1	25-Jan-12
5579	National Child Development Study: Sweep 7, 2004-2005	10.5255/UKDA-SN-5579-1	21-Mar-07
5217	National Child Development Study: Sweeps 5-6 Partnership Histories, 1974-2000	10.5255/UKDA-SN-5217-1	29-Jul-05
5578	National Child Development Study: Sweep 6, 1999-2000	10.5255/UKDA-SN-5578-1	29-Jan-07
5600	National Child Development Study: Employment Histories, 1974-2000	10.5255/UKDA-SN-5600-1	16-Apr-07
4992	National Child Development Study: 37-Year Sample Survey, 1995	10.5255/UKDA-SN-4992-1	11-Aug-04
4324	National Child Development Study: Sweep 5 Parent Migration Dataset, 1991	10.5255/UKDA-SN-4324-1	12-Apr-02
5567	National Child Development Study: Sweep 5, 1991	10.5255/UKDA-SN-5567-1	25-Jan-07
2364	National Child Development Study: Teaching Sets, 1958-1981	10.5255/UKDA-SN-2364-1	03-Nov-88
5566	National Child Development Study: Sweep 4, 1981, and Public Examination Results, 1978	10.5255/UKDA-SN-5566-1	25-Jan-07
2025	National Child Development Study: Sweep 4 Feasibility Study and Tobacco Research Council Study, 1978	10.5255/UKDA-SN-2025-1	01-Jan-84
2024	Warnock Study of Handicapped School Leavers, 1976	10.5255/UKDA-SN-2024-2	01-Jan-84
1858	Social Consequences of Unemployment, 1964-1971	10.5255/UKDA-SN-1858-1	01-Oct-82
5565	National Child Development Study: Childhood Data, Sweeps 0-3, 1958-1974	10.5255/UKDA-SN-5565-1	24-Jan-07
5790	National Child Development Study: Sample of Essays (Sweep 2, Age 11), 1969	10.5255/UKDA-SN-5790-1	26-Aug-08

**Table 1:** Datasets at the UK Data Service.

**Programming language**

N/A

**Licence**

UK Data Service End User Licence

**Accessibility criteria**

The majority of NCDS survey data can be accessed by bona fide researchers through the UK Data Service at the University of Essex. Anyone wishing to access the data will need to register with the UK Data Service before downloading. Some datasets are only available via Special Licence, or via the UK Data Service Secure Lab. Access arrangements comply with ESRC Research Data Policy.

Data from the biomedical sweep collected in 2002/3, including most data generated from the biological samples is available via Special License. However, access to the majority of genotypes generated from NCDS participants is governed by the Wellcome Case Control Consortium CDAC. Access to genotypes linked to other variables or applications for access to DNA and for new uses of biological samples is via the Access Committee for CLS Cohorts (ACCC).

Research metadata, including basic frequencies, is available using NESSTAR at the UK Data Service. The Centre for Longitudinal Studies (CLS) website provides copies of the questionnaires and documentation used in the study. The CLS data dictionary offers further metadata including variables and frequencies.

**Repository location**

DOI for each dataset at the UK Data Service is provided in **Table 1**.

**Publication date**

Publication date for each dataset at the UK Data Service is provided in **Table 1**.

**(4) Reuse potential**

The National Child Development Study is a resource for the research and policy community. The study follows a large sample of individuals born over a limited period of time through the course of their lives, charting the effects of events and circumstances in early life on outcomes and achievements later on. The scope of enquiry is extremely broad and the data is therefore of great potential value to researchers from a wide range of disciplines. The Centre for Longitudinal Studies website contains a searchable bibliography of publications based on data collected by the study. As of May 2014 there are over 2000 publications listed.

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