

# 1970 British Cohort Study

## Responses and Deaths data

User guide (Version 5)

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CENTRE FOR  
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# 1. Introduction

## 1.1 About the 1970 British Cohort Study

The 1970 British Cohort Study (BCS70) is an ongoing, multi-disciplinary longitudinal birth cohort study, following a nationally representative sample of over 16,000 people born in Britain in a single week in April 1970.

We have surveyed cohort members throughout their childhood and adult lives, mapping their individual trajectories and creating a unique resource for researchers. It is one of very few longitudinal studies following people of this generation anywhere in the world.

Featuring a range of objective measures and rich self-reported data, BCS70 covers an incredible amount of ground and can be used in research on many topics

Evidence from BCS70 has illuminated important issues for our society across five decades. Key findings include how reading for pleasure matters for children's cognitive development, why grammar schools have not reduced social inequalities, and how childhood experiences can impact on mental health in mid-life.

Every day researchers from across the scientific community are using this important study to make new connections and discoveries.

## 1.2. BCS70 data collection

This document accompanies the release of the fifth edition of the BCS70 Response and Deaths data at the UK Data Service. The new data replace the previous response datasets and combines it with data on known deaths among members of the British Cohort Study birth cohort from 1970 to 2020.

The BCS70 study began as the British Births Survey, when data were collected over babies born in Great Britain (England, Scotland and Wales) in one week of 1970. To date, there have been nine follow-ups of the entire cohort which have sought to monitor their development in key domains – health, education, social and economic.

The follow-ups were undertaken when the cohort members were aged 5, 10, 16, 26, 30, 34, 38, 42 and 46 years. For the first three of these, the birth cohort was augmented by including in the target sample immigrants born in the relevant week and identified from school registers during tracing. Sub-studies have also been carried out at age 22 months, 42 months and 21 years. Over the years, information has been gathered from a number of sources (*e.g.* parents, schools, doctors, medical records, cohort members) and in a variety of ways (*e.g.* interview, self-completion, assessments, medical records). In addition, details of public examination entry and performance were obtained from schools prior to the 26-year follow-up.

## 2. Response

In this section we describe the ‘cross-sectional’ and ‘longitudinal’ response rates achieved at each follow-up. This builds on the work originally done by Plewis et al<sup>1</sup> which described response up to 2004. The response dataset has now been updated with data from the most recent survey – BCS10 (2016). In addition, the response categories have been simplified from previous releases. Additional information on country of birth, ethnicity and twin status and sex has also been provided.

The birth sample includes approximately 98% of all notified births in Great Britain (England, Wales and Scotland) during the week of April 1970. At BCS2 (1975), BCS3 (1980) and BCS4 (1986) immigrants to Great Britain who were born in the relevant week were identified from school registers and added to the sample<sup>2</sup>. Additional children born in Great Britain not previously contacted for the study during the week in question were also added.

The first sweep of BCS70 included 628 cases from Northern Ireland which were never followed up. While their data remains available to access, it has been removed from the latest version of the response data as the focus is on longitudinal response. A further 341 cases have also been dropped from the dataset having never participated in any of the 10 sweeps.

**Table 1** shows how many sweeps cohort members have participated in. 60% have completed in 6 or more sweeps of data collection.

**Table 1: Completed sweeps**

Number of sweeps completed	Number of cohort members	Percentage	Cumulative percentage
10	3097	17%	17%
9	2692	15%	32%
8	2053	11%	43%

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<sup>1</sup> PLEWIS, I, CALDERWOOD, L, HAWKES, D AND NATHAN, G (2004) [Changes in the NCDS and BCS70 populations and samples over time](#). CLS Technical Report. London: CLS, Institute of Education

<sup>2</sup> FERRI, E, BYNNER, J and WADSWORTH, M. (2003) *Changing Britain, Changing Lives: Three Generations at the End of the Century*. London: Institute of Education.

Number of sweeps completed	Number of cohort members	Percentage	Cumulative percentage
7	1608	9%	52%
6	1512	8%	60%
5	1512	8%	68%
4	1646	9%	77%
3	1282	7%	84%
2	824	5%	89%
1	1807	10%	100%
Total	18037		

**Table 2** shows a summary of the survey responses at every sweep, with **Table 2a** displaying these number of percentage terms (%). It indicates the number of productive interviews achieved in each follow-up from all cases, whether born in Great Britain or otherwise. Where productive interviews were not achieved, the reason for this is also shown. The category “not issued” has a different context prior to BCS4 and from BCS5 onwards. In the first three sweeps “not issued” are those cohort members who joined the study after the birth data collection, either because they were immigrants or were missed during the initial data collection in 1970. From BCS5 onwards the ‘not issued’ category is comprised of those who chose to withdraw permanently from the study and those who had been untraced for a lengthy period.

**Table 3** shows the number of cohort members resident in Great Britain by country of birth. **Appendix A** show a more detailed breakdown of response by country of birth and residence.

**Table 4** shows the calculated cross-sectional and longitudinal samples and consequent response rates using information from Table 2:

1. The cross-sectional sample at sweep  $t$  is defined as “*all those born during the defined week in April 1970, and living in Great Britain at the time of the sweep  $t$  data collection (including the Isle of Man and Channel Islands)*”.
2. The cross-sectional achieved sample is “all those members of the cross-sectional sample who participate in a particular sweep.”

3. The longitudinal sample is defined as *“all those born in Great Britain during the defined week in April 1970, and living in Great Britain at the time of the sweep t data collection (including the Isle of Man and Channel Islands)”*.

4. The longitudinal achieved sample is “all those members of the longitudinal sample who participate in a particular sweep.”

At the most recent sweep both the cross-sectional and longitudinal response rates were 70%. The percentage of the cross-sectional and longitudinal samples is the same in each sweep. The response rate was handicapped in 1986 by a teachers' strike and in 1996 by the use of a postal survey with limited resources.



**Table 2: Survey Response**

<i>OUTCOME</i>	<b>BCS1</b> <i>Birth</i> 1970	<b>BCS2</b> <i>Age 5</i> 1975	<b>BCS3</b> <i>Age 10</i> 1980	<b>BCS4</b> <i>Age 16</i> 1986	<b>BCS5</b> <i>Age 26</i> 1996	<b>BCS6</b> <i>Age 30</i> 2000	<b>BCS7</b> <i>Age 34</i> 2004	<b>BCS8</b> <i>Age 38</i> 2008	<b>BCS9</b> <i>Age 42</i> 2012	<b>BCS10</b> <i>Age 46</i> 2016
<b>Productive</b>	16589	13135	14867	11615	9003	11261	9665	8874	9841	8581
<b>Refusal</b>	0	0	0	0	66	1080	1002	710	1863	2065
<b>Non-contact</b>	0	0	0	5773	4164	2681	2003	1926	1212	1120
<b>Other unproductive</b>	17	3255	2340	17	46	457	229	197	339	416
<b>Ineligible</b>	0	0	0	0	0	15	1	4	0	8
<b>Not Issued</b>	1431	1078	240	9	4008	1541	3885	4988	3383	4395
<b>Not Issued - Emigrant</b>	0	0	0	0	34	235	432	456	433	466
<b>Dead</b>	0	569	590	623	716	767	820	882	966	986
<b>Total</b>	18037	18037	18037	18037	18037	18037	18037	18037	18037	18037

**Table 2a: Survey Response (%)**

<i>OUTCOME</i>	<b>BCS1</b> <i>Birth</i> 1970	<b>BCS2</b> <i>Age 5</i> 1975	<b>BCS3</b> <i>Age 10</i> 1980	<b>BCS4</b> <i>Age 16</i> 1986	<b>BCS5</b> <i>Age 26</i> 1996	<b>BCS6</b> <i>Age 30</i> 2000	<b>BCS7</b> <i>Age 34</i> 2004	<b>BCS8</b> <i>Age 38</i> 2008	<b>BCS9</b> <i>Age 42</i> 2012	<b>BCS10</b> <i>Age 46</i> 2016
<b>Productive</b>	92%	73%	82%	64%	50%	62%	54%	49%	55%	48%
<b>Refusal</b>	0%	0%	0%	0%	0%	6%	6%	4%	10%	11%
<b>Non-contact</b>	0%	0%	0%	32%	23%	15%	11%	11%	7%	6%
<b>Other unproductive</b>	0%	18%	13%	0%	0%	3%	1%	1%	2%	2%
<b>Ineligible</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Not Issued</b>	8%	6%	1%	0%	22%	9%	22%	28%	19%	24%
<b>Not Issued - Emigrant</b>	0%	0%	0%	0%	0%	1%	2%	3%	2%	3%
<b>Dead</b>	0%	3%	3%	4%	4%	4%	5%	5%	5%	6%
<b>Total</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

**Table 3: Residence/Country of birth at each follow-up**

	<b>BCS1</b> <i>Birth</i> 1970	<b>BCS2</b> <i>Age 5</i> 1975	<b>BCS3</b> <i>Age 10</i> 1980	<b>BCS4</b> <i>Age 16</i> 1986	<b>BCS5</b> <i>Age 26</i> 1996	<b>BCS6</b> <i>Age 30</i> 2000	<b>BCS7</b> <i>Age 34</i> 2004	<b>BCS8</b> <i>Age 38</i> 2008	<b>BCS9</b> <i>Age 42</i> 2012	<b>BCS10</b> <i>Age 46</i> 2016
<b>Resident in Great Britain</b>	<b>17565</b>	<b>17079</b>	<b>17375</b>	<b>17414</b>	<b>17287</b>	<b>17035</b>	<b>167758</b>	<b>16668</b>	<b>16635</b>	<b>16585</b>
- born in Great Britain	17565	16996	16975	16942	16816	16586	16327	16242	16201	16152
- born outside of Great Britain*	0	83	400	472	471	449	431	426	434	433
<b>Not resident in Great Britain</b>	<b>472</b>	<b>367</b>	<b>72</b>	<b>0</b>	<b>34</b>	<b>235</b>	<b>459</b>	<b>487</b>	<b>436</b>	<b>466</b>
- born in Great Britain	0	0	0	0	34	216	424	449	409	438
- born outside of Great Britain*	472	389	72	0	0	19	35	38	27	28
<b>Died</b>	<b>0</b>	<b>569</b>	<b>590</b>	<b>623</b>	<b>716</b>	<b>767</b>	<b>820</b>	<b>882</b>	<b>966</b>	<b>986</b>
<b>Total</b>	<b>18037</b>	<b>18037</b>	<b>18037</b>	<b>18037</b>	<b>18037</b>	<b>18037</b>	<b>18037</b>	<b>18037</b>	<b>18037</b>	<b>18037</b>

\*Includes 26 cohort members where country of birth not known.

**Table 4: Target and achieved samples**

	<b>BCS1</b> <i>Birth</i> 1970	<b>BCS2</b> <i>Age 5</i> 1975	<b>BCS3</b> <i>Age 10</i> 1980	<b>BCS4</b> <i>Age 16</i> 1986	<b>BCS5</b> <i>Age 26</i> 1996	<b>BCS6</b> <i>Age 30</i> 2000	<b>BCS7</b> <i>Age 34</i> 2004	<b>BCS8</b> <i>Age 38</i> 2008	<b>BCS9</b> <i>Age 42</i> 2012	<b>BCS10</b> <i>Age 46</i> 2016
<b>Cross-sectional target sample*</b>	16606	16390	17207	17405	13279	15494	12900	11711	13255	12190
<b>Cross-sectional achieved sample</b>	16589	13135	14867	11615	9003	11261	9665	8874	9841	8581
<b>Cross-sectional achieved sample (%)</b>	100%	80%	86%	67%	68%	73%	75%	76%	74%	70%
<b>Longitudinal target sample**</b>	16585	16307	16808	16933	12958	15081	12590	11442	12936	11897
<b>Longitudinal achieved sample</b>	16568	13052	14498	11305	8795	11004	9449	8671	9615	8376
<b>Longitudinal achieved sample (%)</b>	100%	80%	86%	67%	68%	73%	75%	76%	74%	70%

\* All those known to be alive and resident in Great Britain at the time of the data collection

\*\* All those known to be alive, resident and born in Great Britain at the time of the data collection

### 3. Deaths

Information on deaths has been taken from the records maintained by the organisations responsible for the study over the life time of the study - the National Birthday Trust Fund, the National Children's Bureau (NCB), the Social Statistics Research Unit (SSRU) and the Centre for Longitudinal Studies (CLS). The information has been gleaned from a variety of sources, including death certificates and other information from the NHS.

Central Register (NHSCR), and from relatives and friends during survey activities and cohort maintenance work by telephone, letter and e-mail. Records have not been updated for the 2016 sweep so currently death data is only available to 2012.

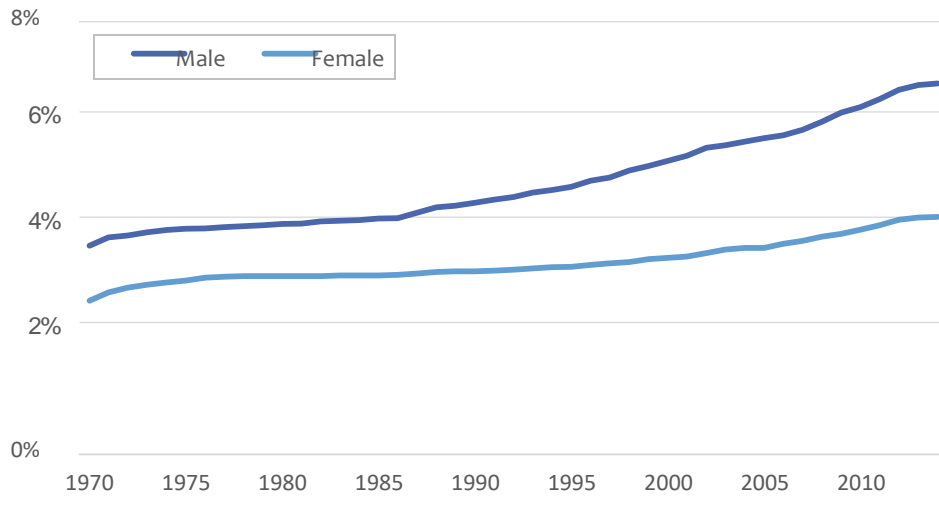
#### **Sources of deaths data**

- *NHSCR Death Certificates*: death certificates supplied to SSRU/CLS by the NHSCR
- *PMS/BCS70 Death Cards*: a card index which recorded deaths among the BCS70 cohort from 1970 until (approximately) 1981.
- *Survey/Cohort Maintenance work*: information deriving from survey activities (e.g. interviewers being told on the doorstep that cohort member has died), or from the BCS70 Address Database, compiled from cohort maintenance work (e.g. response to feedback, phone calls and correspondence between surveys).
- *Stillbirth/Neonatal Death*: these deaths occurred during the period when the BCS70 interviewers were still in close contact with the family, and so verification was immediate.

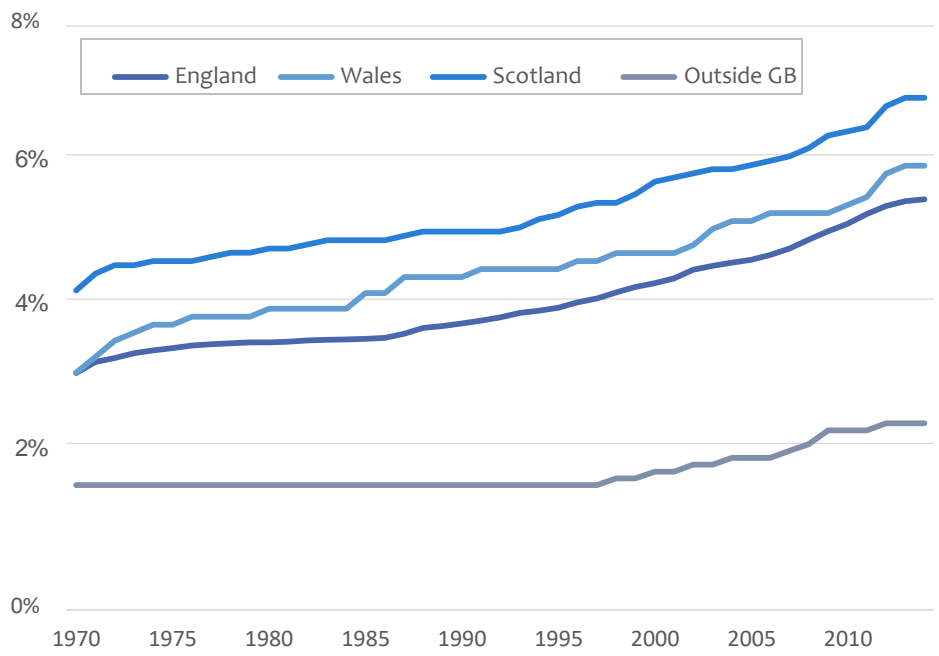
**Diagram 1** provides information on death by sex. This chart shows the expected higher mortality of males, especially after the age of sixteen.

**Diagram 2** shows the higher mortality in Scotland and Wales, compared to England.

**Diagram 1: Cumulative deaths by sex (up to 2012)**



**Diagram 2: Cumulative deaths by country of birth (up to 2012)**



## 5. Datasets

### 5.1 Licencing

The datasets are available from the UK Data Service (UKDS).

All users of the data need to be registered with the UKDS (details of how to do this are available at <https://www.ukdataservice.ac.uk/get-data/how-to-access/registration>).

The datasets have been split into two parts:

- Response data under UKDS End User Licence
- Mortality information under UKDS Special Licence to comply with CLS Section 251 (<http://www.hra.nhs.uk/about-the-hra/our-committees/section-251/>) approval (CAG 103(PR2)/2014) from the Health Research Authority Confidential Advisory Group.

### 5.2 Response dataset (End User Licence)

The content of the EUL dataset is summarised in the following table:

Variable	Description
BCSID	Research Serial Number
SEX	Sex of cohort member
COB	Country of Birth
MULTIPNO	Twin or triplet identity
TWINCODE	Corresponding multiple identifier
OUTCME01	Outcome to BCS1 (1970)
OUTCME02	Outcome to BCS2 (1975)

<b>Variable</b>	<b>Description</b>
OUTCME03	Outcome to BCS3 (1980)
OUTCME04	Outcome to BCS4 (1986)
OUTCME05	Outcome to BCS5 (1996)
OUTCME06	Outcome to BCS6 (2000)
OUTCME07	Outcome to BCS7 (2004)
OUTCME08	Outcome to BCS8 (2008)
OUTCME09	Outcome to BCS9 (2012)
OUTCME10	Outcome to BCS10 (2016)

### 5.3 Death dataset (Special Licence)

The content of the death dataset is summarised in the following table:

<b>Variable</b>	<b>Description</b>
BCSID	Research Serial Number
DODMTH	Consolidated month of death
DODYR	Consolidated year of death
DSOURCE	Source of death information



## Appendix A: Detailed Response by country of birth and residence

	<b>BCS1</b> <i>Birth</i> 1970		<b>BCS2</b> <i>Age 5</i> 1975		<b>BCS3</b> <i>Age 10</i> 1980		<b>BCS4</b> <i>Age 16</i> 1986		<b>BCS5</b> <i>Age 26</i> 1996		<b>BCS6</b> <i>Age 30</i> 2000		<b>BCS7</b> <i>Age 34</i> 2004		<b>BCS8</b> <i>Age 38</i> 2008		<b>BCS9</b> <i>Age 42</i> 2012		<b>BCS10</b> <i>Age 46</i> 2016	
OUTCOME	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>	<i>GB</i>	<i>Not GB</i>
<b>Productive</b>	16568	21	13052	83	14498	369	11305	310	8795	208	9615	226	9449	216	8671	203	9615	226	8376	205
<b>Refusal</b>	0	0	0	0	0	0	0	0	64	2	1827	37	985	17	693	17	1827	37	2021	47
<b>Non-contact</b>	0	0	0	0	0	0	5623	150	4055	109	1175	37	1931	72	1883	43	1175	37	1090	30
<b>Other unproductive</b>	17	0	3255	0	2310	30	5	12	44	2	319	19	224	5	191	6	319	19	402	11
<b>Ineligible</b>	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	0	0	0	8	0
<b>Not Issued</b>	980	451	689	389	167	73	9	0	3858	150	3268	115	3756	129	4821	167	3268	115	4255	140
<b>Not Issued - Emigrant</b>	0	0	0	0	0	0	0	0	34	0	406	27	405	27	428	28	406	27	438	28
<b>Dead</b>	0	0	569	0	590	0	623	0	715	1	955	11	814	6	874	8	955	11	975	11
<b>Resident</b>	17565	0	16996	83	16975	400	16942	472	16816	471	16201	434	16327	431	16242	426	16201	434	16152	433
<b>Not resident</b>	0	472	0	389	0	72	0	0	34	0	216	19	424	35	449	38	409	27	438	28
<b>Dead</b>	0	0	569	0	590	0	623	0	715	1	763	4	814	6	874	8	955	11	975	11
<b>Total</b>	17565	472	17565	472	17565	472	17565	472	17565	472	17565	472	17565	472	17565	472	17565	472	17565	472
<b>Total by data collection</b>	<b>18037</b>		<b>18037</b>		<b>18037</b>		<b>18037</b>		<b>18037</b>		<b>18037</b>		<b>18037</b>		<b>18037</b>		<b>18037</b>		<b>18037</b>	